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THE OUTDOOR AUTOMOBILE SHOW.

THE automobile shows next winter, we understand, are to be held some weeks earlier than usual. The reasons for this change of program have not interested us particularly, because the automobile show, for all practical purposes, soon will be a thing of the past. Who would go now to see a bicycle show? Who would flock to an exhibition of watches, or sewing machines, or the working of the electric telegraph?

We do not imply that the popular interest in automobiles is subsiding or that the limit of novelty in their production has been reached. But there is to be seen daily on the streets of New York—and, in proportion to their size, in other cities—such an automobile show as was never witnessed in any of the great halls rigged up for exhibition purposes, for a week or two, in any city. One who can stand on the streets and witness the constant procession of motor cars of all sorts without being convinced that the new style of transportation is thoroughly practical—and unapproached by any other—could not be further convinced by walking past interminable rows of inactive automobiles crowded into the conventional show halls, however brilliantly lighted with electricity or decorated with flags and banners. One who walks through the streets can see within an hour more styles of motor vehicles than were ever brought together in

an exhibition hall. And what is more, one need not wait to be assured by an exhibitor as to what a car can do; on the street it is active. Outdoors is a continuous demonstration ground. In the exhibition hall the visitor must depend upon his imagination to tell him the possibilities of an automobile in action; on the streets every beholder is confronted with practical examples of motor car capacity beyond the limits of ordinary imaginative powers.

A recent European visitor to the offices of our Journal incidentally spoke of the ordinary exhibition of automobiles upon the streets of the cities as having impressed him more than anything else he had seen in America. The same thing has impressed us. And we feel that any one who will spend half an hour in watching the thousands of patrons of the turf in automobiles returning from the suburban race courses of New York on a summer afternoon—not to speak of other occasions—need not go to a "show" inside an exhibition building to look for variety in automobile construction or to see what the self propelled vehicles are capable of in crowded thoroughfares.

The automobile, of course, has been made possible only through the development of the pneumatic tire. For that the rubber trade is entitled to credit, and hence our interest in automobiles. The demonstration of the pneumatic tire in action on the street any day is worth more than the exhibition of tires on motionless motor cars in an exhibition hall for a whole winter. What does the assertion of an exhibitor as to what a rubber tire will stand amount to as compared with the constant exhibition of actual tire achievement on the streets?

What we have written in regard to street demonstrations as compared to conventional automobile shows is meant to apply to all the great capitals alike. But as for the prevalence of the new vehicles in American cities, it is so far beyond comparison with anything to be seen elsewhere that it is only natural that the leading tire manufacturers abroad should be seeking a footing in the American market. And when New York as a great city—and when the highways in the country at large—ceases to be new in the minds of middle aged men, we predict that the paradise of rubber tire makers will be found between the Atlantic and the Pacific oceans. We are bound to see motor car touring 3000 miles across the continent with the best roads men are capable of building and then will be found here the ideal field for automobiles and the greatest of all markets for tires.

THE INVENTOR IN BUSINESS.

IT might seem natural that the inventor of an important article or process should be chosen as the head of a company formed for its exploitation. There are not wanting instances of large and successful

establishments growing from small beginnings made by an inventor starting in alone to market some product of his skill or ingenuity. But these are exceptions rather than the rule. In modern manufacturing, whereas the basis of numberless concerns is some particular invention, generally patented, the inventor is not generally seen at the head of the management or contributing to it in an important degree.

Any reader can recall instances of inventors who feel that fate has dealt harshly with them—if not unjustly—owing to their failure to reap the lion's share of profits realized from an industry for which some idea of theirs formed the original germ. But manufacturing is a singularly complex business, requiring talents of many kinds, and above all is an intensely practical business. And the mere fact that a man has devised a machine that will enable one man to do the work which before employed twenty does not necessarily prove him a "practical" man. At least it does not prove him capable of making the machine economically or creating a market for it. It does not imply capacity to organize and direct working forces on a large scale; it does not involve the ability to finance an extensive business. None will gainsay the ability of Mr. Edison, for example, for he ranks as the greatest of the world's army of inventors. But none will concede more readily than Mr. Edison that he is not a "business man." His forte is the development of new practical applications of science—not in directing a factory or finding outlets for its products. And so with most other inventors of high and low degree. The deriving of a commercial reward for their work calls for other forms of talent perhaps as marked as their own.

One trouble about the inventor at the head of a factory is that its products are apt never, to his mind, to be completed or perfect. While the commercial type of man will seize upon an invention as it stands and devote his mind singly to the work of finding a market for it, the original creator of the machine or device would be likely, if in charge of the business, to have his mind full of ideas of improving the article and be found constantly experimenting. The thing for the average inventor to do, therefore, is to stick to his inventing and seek to interest in his work men who are capable as manufacturers, salesmen, and financiers, not forgetting to seek a business man's advice in making any agreement as to his ultimate share in the profits.

GERMANY'S INDUSTRIAL GROWTH.

IN a published interview credited to Count von Posadowsky-Wehner, lately of the imperial German ministry, that statesman emphasizes the change that has come about in his country, whereby "Germany has definitely ceased to be an exporter of men and

has become an importer on a large and increasingly heavy scale." This applies both to manufactures and to farming. From all over Europe the industrial forces of Germany are being recruited, under the new era there that provides work for everybody at home and for more, whereas it is not so long since a great problem was that of finding elsewhere room for the surplus German population.

Of course the influx of foreign labor means that labor is better paid in Germany to-day than in the regions from which the immigration is drawn; in other words, that a better standard of living is possible to be maintained there as the reward of labor. One result will be that any advantage in favor of Germany in competition with some other manufacturing countries—America, for example—on account of a low wage scale will gradually disappear. On the other hand, the industrial leaders of Germany, aided by the benefits of widespread technical education, may be counted upon to strive to prevent any other country from excelling them in the matter of processes and methods.

The fact that Germany is importing men, considered from another viewpoint, means that she is exporting on a rapidly growing scale the products of skilled labor and thus realizing a profit from supplying an increasing share of the manufactured wares needed by the world at large. The importance of her position as a competitor in any branch of industry cannot be ignored.

To take a single example of industrial expansion in Germany, one may note the growth in the consumption of india-rubber in that country, which, according to estimates made by the *Gummi-Zeitung*, amounted to only 673 tons in 1858; 1989 tons in 1872; 3329 tons in 1889, and 13,542 tons in 1905. This increase is accounted for only in part by the greater use of rubber goods in Germany; an increasingly important item is the consumption of German made rubber goods abroad.

SOME NEW RUBBER FACTS (?).

IN view of THE INDIA RUBBER WORLD having been among the first to commend the practical value of the United States consular reports as now prepared and published, and of its being to this day second to none in appreciation of the work of the consular service, we may be allowed, we hope, to criticize these reports now and then without prejudice to the system as a whole. It is taken for granted that the consuls do not assume to be experts on the thousand and one subjects that come under their notice—and their pens—but we fail to see what harm could come from including somewhere in the consular administration a little more expert knowledge of every day topics than is sometimes apparent, in order to guard against absurd utterances.

In the issue of the *Daily Reports* for June 18 last are some paragraphs headed "Rubber Tapping," over which we dare say some people will feel amused, and it will hardly serve as an excuse for the government to point out that the paragraphs in question are clearly put forward as an extract from a newspaper. In the absence of any warning the reader is justified in accepting the statements made as official and to be taken for gospel. Else why is the stuff printed?

It cannot be too strongly pointed out, we read in this report from Washington, that too frequent or prolonged tapping is injurious and only produces inferior rubber.

One is not told how frequent or how prolonged is the tapping practice here criticized, but the next sentence may serve to help out:

In Brazil rubber trees are only tapped for one period of the year, doubtless owing to the country being flooded.

Come to think of it, much of the Amazon region is overflowed some time in every year, but this leaves several months for rubber gathering, and it has always been understood that the big wild *Hevea* trees are tapped at least a hundred times in a season and that they receive this treatment year after year. Then how about the next sentence in the official fountain of knowledge:

The long interval of rest may represent well matured or well oxidized caoutchouc, and partly explains the preference for Brazilian rubber.

We could wish that some man of wealth would offer a prize for the discovery of the meaning of "well oxidized caoutchouc." The mere expression makes one think of well stagnated water as a beverage and other such like pleasant things.

WHILE THE GREATER PART OF THE RUBBER PRODUCED is obtained from the barks of trees and plants, rubber is found in the woody portion of at least one species (the Mexican guayule). Rubber is found in the leaves of plants, and in the roots. We have lately reported on a rubber yielding tuber, and now attention is being called to fruits yielding rubber. Horticulturists have done wonders in the past in developing particular features in plant growth, and who knows but that some "plant wizard" will arise who will develop a tree that is all rubber?

IT NOW LOOKS AS IF RUBBER is to be exploited profitably in the Amazon region by foreign capital. Why not? It must be assumed that the greater part of the rubber that has come down the Amazon in the past—hundreds of millions of pounds—has yielded a profit to somebody concerned in its collection. It is true that the European managed companies that have entered the field generally have come to grief, but this might be taken to prove that their administrators were less capable business men—in the rubber trade, at least—than the traders native to the country.

ONE MERIT OF HIGH CAB FARES in New York is that they have tended to keep the vehicles out of use, and thus lessened the wear and tear of the tires. This has meant a saving to the cab owners, even if the public may have been inconvenienced. Now that a company has been formed in London to fill New York streets with Paris built "taximeter" motor cabs, with a minimum fare of 30 cents instead of \$1, it is likely that a new outlet will be opened for the sale of rubber tires. The company's pros-

pectus, by the way, estimates the tire bill per day at \$2 for each cab.

AND NOW GOVERNMENT MANAGEMENT OF THE "TRUSTS" by receivers has been suggested seriously. While the people were really inflamed against the big corporations the laws and the courts failed to suppress them. Now that the public has lost its old-time interest in the subject, there are still some individuals who insist that "the trusts must go," and the most practical plan that they can suggest is to put the offending companies in the hands of receivers! No doubt it would be great fun for a government paid receiver to manage the business of a corporation like the United States Rubber Co., for example. It might afford amusement likewise to some onlookers, including any competing makers of rubber goods who might still be allowed to attend to their own business.

CENSUS REPORT ON ELECTRICAL SUPPLIES.

BULLETIN No. 73 of the United States census of manufactures of 1905, devoted to Electrical Machinery, Apparatus and Supplies, is written by Thomas Commerford Martin, editor of *The Electrical World*, expert special agent for the census office in this inquiry. The figures of the recent census, compared with the census of 1900, show a notable increase in all branches of the electrical industry in the United States, but in this place attention can be given only to the section devoted to insulated wires and cables.

The production of insulated wires and cables is reported by value only, it having been practically impossible to secure returns of the quantity of material produced. The value stated for 1905 is \$34,519,699, against a total of \$21,292,001 for 1900—an increase of 62½ per cent. This represents the outturn of 61 factories, located in 13 states, mostly in the East, New York taking the lead. Of course the figures embrace insulated wires of every type, and no attempt is made to distinguish between rubber insulated wires and others. It is matter of common knowledge, however, that the production of rubber insulation work is on the increase, and while Mr. Martin does not refer to the matter, it may be assumed that the increase in rubber products has been as great as in the industry as a whole. It is hardly necessary to add that not all the 61 factories in question use rubber for insulation.

* * *

"EVERY branch of electrical industry requires large amounts of insulated wires and cables," says the author of this bulletin. "Every telegraph office and telephone exchange employs large quantities of such wires and cables. Every house or factory or office building wired for electric lighting and power receives and distributes its current through insulated conductors. Every motor car is heavily cabled, while every dynamo and motor is built up with insulated wires and cables." Among the many illustrations of the extensive uses of such wires, it is stated that a single telephone switchboard of the large modern type contains as much as 10,000 miles of insulated wire.

Special reference is made to underground cables in the field of electric lighting and power work. Referring to high tension cables of the class which have relatively small current carrying capacity, for operation under working pressures of from 2,500 to 25,000 volts, Mr. Martin writes that these "have developed from the stage where merely rubber was used for insulation up to the time of the present report, when rubber, varnished cambric, saturated tape, and paper insulation have all been brought to a high state of perfection for this work. Rubber is used only where local conditions seem to demand an insulation that is impervious to moisture, so that in case the outer protected lead sheath should be punctured the cable itself need not necessarily fail. The superintendent of motive power of the Interborough

Rapid Transit Co., of New York city, points out that where cables have to be installed in conduits that are under water part of the time or on the beds of rivers, etc., the extra investment for the more costly rubber insulation is justified, since in case of a leak in a submarine or submerged cable lead sheath it usually becomes a total loss if insulated with paper or non-moisture proof material, whereas good rubber lasts indefinitely under water."

* * *

With regard to the insulated cable used in telephonic work the report says: "The great advantage of paper insulated cable is that its low electrostatic capacity makes it much less expensive than other types. The rubber cable requires three times as much copper conductor as the paper cable, hence as the capacity increases with larger conductors the rubber insulation becomes more expensive than paper, on the basis that rubber cable has about three times the electrostatic capacity of paper cable."

During the period intervening between the censuses of 1900 and 1905 a new branch of insulation work developed in the United States—the manufacture of submarine cables. The lines installed among the Philippine islands and between Seattle and Alaska, involving cables manufactured in this country, aggregate in length more than twice the distance across the Atlantic.

GUAYULE INTERESTS.

A FACTORY for the preparation of guayule rubber is being erected by the Texas Rubber Co. at Marathon, in western Texas, on the Southern Pacific railway. The locality is between the Rio Grande and Pecos river, immediately north of the Mexican state of Coahuila. The Texas Rubber Co. was incorporated at Austin on April 10, 1907, by Otto Koehler, John J. Stevens, and S. G. Newton, all of San Antonio, Texas, where the company will maintain general offices. The capital, fully paid, is \$100,000. They have purchased all the guayule shrub in three large Texas counties—estimated at 8,000 to 10,000 tons—and expect to be in operation by August 1, turning out one ton of rubber daily. Mr. Koehler is president of the new company. He is president also of the National Rubber Co., of San Antonio, incorporated June 16, 1905, and now operating a guayule factory at Gomez Palacio, Mexico, with a capacity of one ton per day. [See THE INDIA RUBBER WORLD, April 1, 1907—page 209.] Mr. Koehler is president likewise of the San Antonio Brewing Association, an extensive enterprise.

Mr. Koehler writes to THE INDIA RUBBER WORLD: "There has been a great deal of sensational news disseminated through the newspapers in regard to the enormous quantities of guayule shrub in western Texas, and in order to set such reports at rest, and give you reliable data on the subject, I will state that after two years of close investigation and examination of the different guayule shrub bearing lands in Texas, I find that there is not to exceed, all told, 10,000 tons of the shrub in the whole state of Texas."

The factory of La Internacional Mexicana Companhia Guayulera, S. A., at Torreon, was reported lately to have been closed temporarily for the addition of machinery to increase the capacity one-third. Luis Oettinger, of Mexico City, is president of the company.

The new Companhia Guayulera de Torreon, S. A., mentioned in the last INDIA RUBBER WORLD (page 320), will, it is reported, locate their factory at Ocampo, state of Coahuila—a small station on the Mexican International railway, near the Texas border.

The Royal Rubber Co., the headquarters of which are at El Paso, were referred to in THE INDIA RUBBER WORLD June 1, 1907 (page 267), as erecting a guayule factory at Ciudad Juarez, Mexico. It has since been decided to locate nearer the guayule

producing district, probably at or near Torreon. Meanwhile considerable machinery has been made for the company at El Paso.

Mexican newspapers mention the Pennsylvania Rubber Co. (Jeannette, Pa.) as interested in certain guayule rubber enterprises. From the offices of the company THE INDIA RUBBER WORLD learns that a former official of the company did plan something of the kind, but that their interest in guayule probably will be disposed of in the very near future.

In a mention of one W. H. Ellis, of New York, in THE INDIA RUBBER WORLD of July 1, 1907 (page 308), it was inadvertently stated that he had gained "control of the factory at Gomez Palacio of the National Rubber Co." It appears that he did figure in the transfer of a small block of stock in this company some months ago, but the control remains with the Texas interests.

Mr. William H. Stayton, vice president of the Continental Rubber Co., is quoted by the Chihuahua (Mexico) *Enterprise* as estimating that, at the present rate of consumption, the supply of guayule shrubs should last for 7 years. Mr. Stayton is mentioned as having sent an average sized specimen of the shrub to the Smithsonian Institution, at Washington, where its age was reported to be 54 years. It is recognized that if a new supply of guayule is to be obtained, some means must be found for making it grow much faster than this.

DR. ADOLPHO MARX.

THE illustration on this page has been made from a photograph of Dr. Adolpho Marx, in a Mexican guayule "field." Dr. Marx has been interested in an important way, from the beginning, in the development of the guayule rubber interest. He was associated with the company L'Anglo Mexicana, a German company, directed from Hamburg, formed to exploit ixtle and other



DR. ADOLPHO MARX IN THE FIELD.

Mexican fibers, both for manufacture and exportation. Later (in 1905) the company transferred their guayule interests to a new company, the *Compañia Explotadora de Caucho Mexicano*, now operating in producing guayule rubber on an important scale. Dr. Marx is interested largely and actively in the latter.

The Insulated Wire Manufacture—I.

By a Practical Man.

NO department of the rubber industry has made more rapid progress than that devoted to the insulation of wires for electrical uses, though progress in some others may have been more spectacular. The manufacture of a valve or a piece of hose is no very exciting matter. Even the specifications of a railway company for air-brake hose, or of a city for its fire hose, while interesting, do not appeal to the imagination. It is within the purview of wire insulation that the efficiency of rubber compounding comes face to face with that grim and mysterious force found in the electric current. Here is not a question of finish, of color or of cost, so much as resistance and resilience. These matters being well established, users of insulated wire are apt to specify what materials shall be used and how the goods shall be made. That this feature may be the better understood the following specifications are given.

Here is an easy one: A coating of fine Pará is to be put upon the wire, followed by a layer containing 40 per cent. of fine Pará, which in turn shall be covered by a layer containing 30 per cent. of fine Pará, and finally a rubber-coated tape shall be wound over all. This insulation shall not contain more than 5 per cent. of acetone extract; a strip with marks upon it 2 inches apart shall stretch to 6 inches between marks, and recover to $2\frac{3}{4}$ inches in one minute, and then stretch 9 inches without breaking.

This one is a bit stiffer: All layers of pure Pará must be 98 per cent. pure, elastic, tough and free from flaws and holes. The compound to contain 39 to 44 per cent. of fine Pará and not more than 3 per cent. of sulphur. This sulphur must be combined with Pará so that not more than two-tenths of 1 per cent. shall remain in the compound as free sulphur. A piece one-half inch wide by one-thirty-second thick, shall, on stretching, show a breaking strain of 1,000 pounds per square inch and stretch $3\frac{1}{2}$ times its length. Then, subjected to stress of 900 pounds per square inch for one minute, must recover to 50 per cent. of its original length within ten minutes.

But the higher you go the harder it becomes, and "there's no elevator." This specification is for a cable:

The insulation must stand stretch of three times a given length without breaking and repeated four times must return within 50 per cent. of the original length by ten minutes, and then stretch $3\frac{1}{2}$ times length without breaking. Then, after soaking in water sixty hours, it must withstand an alternating voltage of 2,500. After the cable is made up the insulation of each conductor (wire) shall withstand without rupture for five minutes, a pressure of 1,000 volts alternating current, and finally, after seventy-two hours soaking, the insulation resistance of the completed cable shall not be less than 3,000 megohms per mile at 60° F. The compound must contain no reclaimed rubber, rubber substitute, asphaltum, lamp black, paraffine, ozokerite, or oils—30 per cent. pure gum only. What do you think of that, complacent manufacturers of "ordinary" rubber goods?

To insulate a single wire is no great problem, but the assembling and binding into a cable of from 7 to over 2,000 wires is a different matter. Let us examine one form of cable construction. About a single insulated wire as a central conductor are wound six other wires. These are then covered with a layer of frictional tape. This bundle is next surrounded by twelve other wires and the whole again taped. Next comes a layer of dry jute covered by a layer of tarred jute. These jute layers are twisted on in opposite directions and bound spirally with cotton thread to keep the fibers snugly in place, while, as a finisher, an armor of galvanized iron wire is wound over all. The outside diameter of such a cable must not exceed a given size, as, for example, 1 1-16 inches, nor weigh to exceed 6,500 pounds to the mile. When ready for shipment it will be coiled upon huge

wooden drums or reels, $4\frac{1}{2}$ feet long by $6\frac{1}{2}$ feet high. Each reel will contain from one to two miles of cable.

In some situations a fireproof cable is desirable. A large number of wires frequently enter into their construction, which are twisted together and covered with a jacket of compounded rubber insulation. This jacket is wound with asbestos tape. Then comes another and heavier cover of asbestos fiber, followed by one of cotton, both braided on. A finishing layer of flame-proof compound completes the work.

Cables are generally made up of bare wires, but not always. What is called an "aerial" cable is sometimes made up of small wires each separately insulated. These are then formed into a cable, which receives a cover of tape, then one of jute and one of braided cotton, covered by a coat of waterproof varnish.

Some years ago one of the electric lighting companies had a switchboard cable made of unusual size. It contained 61 bundles of 37 wires each, or a total of 2257 wires. These wires, twisted into a huge rope, were covered with a heavy coat of rubber insulation, which received a finishing armor of No. 4 B. W. G. galvanized iron wire.

Thus it will be seen that the maker of insulated wire has problems enough and to spare. They have proved stimulating to his inventive faculty, as is evidenced by the large number of patented or specially prepared compounds, chiefly valuable for their insulation properties. Many of them will be found described in Mr. Pearson's "Crude Rubber and Compounding Ingredients," and it is interesting to observe the various and peculiar substances that have the property of electrical resistance attributed to them. There is "insullac," containing wood or vegetable fiber; "marloid," employing animal hides; "viscoid," tar and pitch; "dermatine," gutta-percha and rubber; "vulcabeston," asbestos and rubber; "kerite," vegetable oils, coal tar and bitumen; also many patented and safe guarded compositions of which less is known.

Compounding for wire insulation does not differ essentially from methods employed in the mechanical rubber goods lines. Combinations of cheap gums with Pará are practicable and valuable, for, while much insulation is used containing 30 to 80 per cent. of fine Pará, there is a corresponding demand for cheap stocks always provided they meet insulation requirements.

One other thing is imperative: Compounds and gums must be clean of grit, sand bark, and the like, for such substances if allowed to remain, are almost sure to be found by the electric current, with disastrous results. So essential is cleanliness that mineral substances are sometimes sifted through silk screens. The average thickness of insulation for small wire being gaged by $\frac{1}{64}$ ths of an inch, it will be seen that a grain of sand, pin point in size, is always a ground of anxiety and sometimes the cause of loss.

Let us review briefly the manufacturing processes necessary to produce an insulated wire. They will be embraced under the following divisions: Mixing of compounds, tubing machine work, single and stranded conductors, cables, chemical analysis, testing and repairing.

We will assume that the factory has modern appointments, that all rubber used in compounding is clean and dry as bone, that other materials have been carefully dried and sifted. The mill, heated to just the right temperature, is ready for the ingredients that are to form the compound. The gum is first placed on the rollers and worked a few moments until softened sufficiently to absorb quickly the mineral powders. They are at hand in pail or pan, and are fed into the batch by degrees, or all at once as conditions or practice may require. Possibly there may be over the mill a mixing box, the workman pulling a slide

to allow the contents to fall into the mill. A few moments only are required for the mixing and the batch is ready for refining or grinding. This is accomplished by drawing the mill rolls together as tight as possible. The workman operating from the side of the rear or fast roll then takes off the compounded material in form of a very thin sheet. This grinding answers the double purpose of thoroughly incorporating with each other the various ingredients of the compound and of refining, by crushing, or bringing to view anything detrimental to it.

The batch is now ready for the calender, where it is sheeted to specified thicknesses, and cut to width required by that type of insulating machine that places insulation material about the wire in the form of strips. These passing with the wire between grooved rollers, are made to conform to and adhere to it, the surplus compound being trimmed away in the process. Where insulation is thick enough to admit of it, it can be applied in one or more coats. That is to say, a wire in passing once through the machine may receive the insulation in two or more layers, each differing in character, cost and color. Machines of this kind are also arranged to insulate more than one wire at a time, which adds greatly to productive capacity. One great advantage claimed for this method of applying insulation is that the application of a second layer performs the office of automatic repair upon any defects that may have developed in the first layer. While a two or three layer cover is not necessarily free from imperfections, it is clear that this method saves much repairing.

Another method of applying insulation is by means of the tubing machine, which receives the compound direct from the mixing mills. These machines are adapted to turn out insulation of a certain weight, hence the elaborate equipment required by a factory includes many sizes from the "pony" to the huge cable maker. Each machine is also supplied with a number of dies to meet requirements for different thickness of wall.

A tubing machine in working order would have in front of it a revolving table holding the coil of wire to be insulated. This wire passes first through an automatic measurement register, and thence through the tubing machine head. Here it receives the insulation coat, and then passes over a long, narrow, talc-covered table to the pan or drum on which it is wound. A firm stock is wound on drums, a soft stock in pans, where each layer is covered with talc to prevent flattening during the curing process or other injury. Thus prepared the wire is ready for vulcanization. This is accomplished in the open heat, requiring from thirty minutes to several hours, with heat ranging from 250° F. upward.

After curing, the wire with its covering of rubber compound, now for the first time "insulated wire," is wound in coils containing from a few hundred to several thousand feet. These are assembled according to grade and size in huge metal tanks, where they soak in water for twenty-four or more hours. The electric voltage is then applied and the electric current soon searches out any defects in the cover of the wire, breaking through it with a slight explosion that causes bubbles to rise to the surface of the water. Defects thus located are immediately repaired and voltage applied again, and the process repeated if necessary, until the insulation of the coil successfully sustains the electrical test.

[TO BE CONTINUED.]

INSULATION NOTES.

A SERIES of experiments by Teichmüller and Humann, in Germany, in relation to the heating of high tension cables buried in earth, demonstrated the depths below the surface at which the temperature of the earth is no longer influenced to a considerable extent by variations of the temperature of the atmosphere.

A patent issued recently to George Kelly discloses the fact that the discarded woven fabric chutes used for conveying con-

densed zinc oxide can be made into an insulating material when mixed with other ingredients. The discarded fabric is cut into sheets and moistened by brushing with or dipping into a liquid vulcanizing and binding composition composed of rubber, sulphur and liquid glass (silicate of sodium). The resultant product is described as a high-grade electric insulating board, slab, plate, or the like that is thoroughly homogeneous.

COTTON PRODUCERS AND CONSUMERS.

THE president of the Southern Cotton Association, Mr. Harvie Jordan, who is also editor of *The Cotton Journal*, published at Atlanta, attended the fourth International Cotton Congress, held in May in Vienna. The latter is an association primarily of consumers, whereas the Southern Cotton Association is composed of planters. Not the least interesting feature of the Vienna congress was the emphasis placed upon the community of interest between producer and consumer of cotton, instead of their being regarded, as in the past, as antagonistic.

There is a widespread interest in Europe in the efforts being made in various colonies to grow cotton on an extensive scale. Mr. Harvie, after a study of the situation, writes in his paper: "I do not think competition from abroad is likely to ever seriously affect the demand for American cotton, even though ultimately the most extravagant success should attend the efforts to grow cotton in large quantities in foreign countries." While he does not say so, it is evident that Mr. Harvie looks for such a continued growth of cotton consumption as shall long tax the world's productive capacity in this commodity.

We may suggest here that the mere fact that good cotton is grown, and economically, in an African colony does not point to an immediate great increase in the crop. For instance, the English administrator of a certain colony estimated recently that the territory in his charge, which has been proved to possess soil and climate suited admirably to cotton, had an area sufficient for producing as much cotton as is used in the United Kingdom. But a friendly critic of this official, at his home, called attention to the fact that the population of the colony was inconsiderable, and that a long time would be required to get the natives generally interested in the new crop.

Still Mr. Harvie feels impelled to write: "We must no longer be led astray by the false notion that the South is the only country where cotton can be grown." And he utters a warning against a continuance of the careless methods of marketing American cotton abroad which leads to many complaints from spinners. Neglect of this, he asserts, will result in "pushing the production of cotton in other countries so as to become more independent of America if possible."

The interest of this matter for the rubber trade is twofold. Every addition to the world's cotton producing area serves as a check to further advances in the price of cotton. Secondly, Every addition to the world's cotton producing area serves as a plantation and factory, increases the total efficiency, so to speak, of each crop, and is equivalent to an increase of production.

MONEY FOR UBERO CREDITORS.

CREDITORS of The Consolidated Ubero Plantations Co. are to receive a single dividend of 25 cents on the dollar, on claims amounting to \$58,701, under an authorization dated June 10, by Judge Dodge, in the United States circuit court in Boston. This company was incorporated in Maine May 2, 1902, with a large capitalization, and its affairs were so managed as to cause one of its leading promoters, Borges, to be sent to jail. In the summer of 1905 Jeremiah Smith, Jr., of the Boston bar, was appointed receiver for the company, in which capacity he was lately authorized to pay the dividend mentioned. The history of the company was stated at length in *THE INDIA RUBBER WORLD* May 1, 1905 (page 278).

The Amazon Rubber Country.

THE drawbacks to the rubber trade in its initial stages is illustrated by a paragraph in the latest report of the Amazon Steam Navigation Co., Limited: "Amazonian trade was again active, but a sudden and abnormal fall unusually early in the season—notably the Purús and its tributaries in the Acre district—caused much difficulty and inconvenience, a very large number of steamers having had to wait several months for sufficient water to allow of their return to Manáos and Pará. Several of the company's steamers were thus incapacitated for lengthened periods, but all ultimately returned safely to Pará, without having suffered seriously by their detention."

THE Brazilian government has authorized a survey of the rivers Purús, Acre and Juruá, with a view to the improvement of navigation on them. These are the principal rubber producing affluents of the Amazon, yielding about two-thirds of the rubber gathered in Amazonas state, besides most of the production in the Acre district. It long has been realized that the removable obstructions in these streams interfered greatly with the rubber trade, particularly with the regularity and promptness of shipments, but the government at Manáos at no time undertook measures for the improvement of navigation.

In many places rocks exist, capable of being removed without great expense, which interfere with shipping when the water is low. Besides, the annual freshets bring into the rivers many uprooted trees which become lodged in such a way as to prevent the passage of boats for weeks or longer at a time. The trouble caused is twofold: not only is the movement of rubber interfered with, but the carrying of food and other supplies upstream, sometimes causing actual suffering among the rubber gatherers and checking their work.

Now that the Acre district has become a federal territory, administered from Rio, with extensive revenues, a more liberal policy may be pursued with regard to river improvements than was shown at Manáos. Such a policy cannot fail to be welcomed by the rubber interests.

MADAME COUDREAU, widow of Henri Coudreau, a Frenchman who distinguished himself as an explorer in South America, where he died and was buried in 1899, is seriously devoting her life to the continuation of his unfinished work. Since 1893 Mme. Coudreau has spent the greater part of her time in the Amazon regions, first with her husband and now at the head of her own expeditions. Recently she left France for her fourteenth series of explorations, which will be conducted in the vast state of Amazonas. Her other work has been mainly in the state of Pará. This work has consisted in exploring the less known affluents of the Amazon, for the purpose of bringing to light the resources of the regions traversed, the expenses being defrayed by the state. Among other things of value, Mme. Coudreau has discovered important areas of *Hevea*, the tree that yields Pará rubber.

THE Galvez Rubber Estates, Limited, floated recently in London, with £150,000 [= \$729,975] capital, to acquire three adjoining rubber properties in the province of Caupolicán, department of La Paz, Bolivia, have begun operations. At a meeting in London on June 18, presided over by Frank Hillyard Newnes, M. P., he stated that the properties embraced about 2000 *estradas*, and the transfer had been completed of 1,000 *estradas*, and 450 rubber gatherers were at work. Their manager had sent word that about 22,000 pounds of rubber would be shipped in July, direct to Michelin et Cie., the French tire manufacturers, who were under contract to buy all the company's rubber, up to 600,000

pounds a year for two years. The company had sent to Bolivia £10,000 in payment for lands and £5,000 for working capital.

Frank Newnes is a son of Sir George Newnes, Bart., M. P., who is interested in The Inambari Pará-Rubber Estates, Limited, in Peru [see THE INDIA RUBBER WORLD, June 11, 1907, page 284], and is himself a director in that company. He has personally visited some of the properties referred to. The Galvez properties are within the area some time held under a concession by Sir William Martin Conway, and one of them has been worked by J. Austin Pharoah, now associated with the Inambari interests.

Sir Martin Conway, named above, is now chairman of the board of The Inambari Pará-Rubber Estates, Limited.

IN reporting on rubber in Bolivia a Belgian consul says that within 20 years after caucho trees have been cut down a new growth may be found on the same area, which may then be worked again. He mentions 65 pounds as the average yield of the caucho trees.

At the time of the flotation of De Mello Rubber Co., Limited, in London, in July, 1906, only 175,000 of the 225,000 participating cumulative preference £1 shares were offered to the public. Since that date the remaining 50,000 shares have been issued, in order to meet the requirements of the company with regard to working capital. It was stated in the original prospectus that during five years the De Mello estates, partly in Amazonas and partly in the Acre territory, had yielded an average output of nearly 300 tons per year, rising in 1905 to 385 tons. It was expected that the current crop year would show a product of more than 500 tons of rubber. The company's preference shares have been admitted to quotation on the Paris *bourse*. It is stated that a half yearly dividend at the rate of 7 per cent. on the participating preference shares was paid on July 1.

THE Pará-Manáos cable of The Amazon Telegraph Co., Limited, has been working latterly with fewer interruptions than formerly, and the company are considering a branch line up the Madeira river to San Antonio. The traffic earnings for three fiscal years (ending June 30) have been: In 1904, £40,208; in 1905, £67,000; in 1906, £63,596. Meanwhile the subsidy received from the state has increased as the service has improved, owing to the lessened number of interruptions. If this improvement continues, it will soon be a thing of the past for the rubber market to be affected by a report that the cable has broken down.

THE Manáos Markets and Slaughter House, Limited, has been registered in London, with £500,000 [= \$2,433,250] capital, to acquire and turn to account a concession for the establishment of markets and a slaughter house in Manáos, the great rubber center of the upper Amazon.

EXPORTS of Bolivian rubber through the port of San Antonio, on the Madeira river, during five years were as follows [in kilograms]:

1900.....	780,930	1903.....	539,904
1901.....	876,545	1904.....	894,508
1902.....	586,335		

The exports for 1904 embraced 776,176 kilos fine rubber; 89,522 kilos coarse; 142 kilos caucho sheet; 28,668 kilos caucho ball. Of the total, 521,659 kilos were exported by the Suarez firm (Suarez Hermanos) headed by Nicolas Suarez, the forest "rubber king" of whom a sketch appeared in THE INDIA RUBBER WORLD April 1, 1905 (page 223).

An Early Leader of the Rubber Trade.

CHRISTOPHER MEYER, "RUBBER KING."

IN the days when the late Christopher Meyer was one of the most conspicuous figures in the rubber industry, being spoken of often as the "rubber king," and the possessor of the largest individual fortune that had ever been made out of rubber, portraits of private citizens were published less frequently than now. It is probable that his likeness was never seen in any other form than in a photograph, such as has been used as the basis of the portrait of Mr. Meyer given on this page—the first ever published.

Christopher Meyer was born at Hanover, Germany, on October 15, 1818, and died in New York on July 31, 1888. Deciding to seek his fortune in America, he found employment at the age of eighteen in a machine shop at Newark, New Jersey. His employer having contracted to install some machinery in the rubber factory of Horace H. Day, at New Brunswick, New Jersey, young Meyer was employed upon this, with the result that he attracted the attention of Mr. Day and passed into his employment. The machine shop referred to grew later to considerable proportions under the ownership of the late William E. Kelly, who at one time or another probably supplied machinery to every rubber factory in the country.

Speedily mastering the details of rubber working, Mr. Meyer became superintendent of the Day factory, but he was not long content to remain in a subordinate position. With the help of \$300 borrowed from James Bishop, a shipping merchant in the Brazil trade and at different times a stockholder in several rubber factories, Meyer in 1844 started a small rubber factory for himself, which burned a year later, leaving him without capital. In that year Mr. Bishop and his brother-in-law, John R. Ford, then a dry goods merchant, engaged in manufacturing rubber shoes under the name Ford & Co., and the services of Meyer were secured as superintendent. He also became a partner in the firm. Later Mr. Meyer established a factory at Milltown, New Jersey, which became the plant of the Meyer Rubber Co., incorporated in 1858. In 1861 the business of Ford & Co. was merged with it, and the company became one of the leading rubber footwear concerns, being to-day a constituent part of the United States Rubber Co.

In those days the eight factories licensed under the Goodyear patents to make footwear (and nothing else of rubber) covered the field very fully, and had little room for expansion at home. Having met with encouraging success in creating a demand for their products abroad, some of the American manufacturers decided to establish a rubber shoe factory in Scotland. The business there was founded in 1855 as Norris & Co., with eight "founders"—all Americans—including Messrs. Meyer, Ford and Bishop. Two years later the company became registered as the North British Rubber Co., Limited, at Edinburgh. Mr. Meyer was largely interested, and it is understood that some of his descendants still hold shares in the company.

Connected with Ford & Co. at an early date was Lewis L. Hyatt, who went to Edinburgh as superintendent of the factory there. Returning to America he established in 1870 the Hyatt Rubber Co., for making rubber shoes at New Brunswick, with himself and Messrs. Meyer and Ford equal partners. This be-

came later the New Jersey Rubber Shoe Co., and in 1892 was acquired by the United States Rubber Co. The factory occupied was that in which Mr. Meyer had taken his first lessons in rubber working, in making "shirred goods," under Day. The view of the building herewith shows its appearance in 1876, by which time it had become somewhat enlarged.

Mr. Meyer was also interested in the Novelty Rubber Co., incorporated in 1855, at New Brunswick, to make hard rubber goods (other than combs) under license from Goodyear. It had a marvelously profitable career for about ten years, paying dividends as high as 100 per cent, it is reported, but the business declined with the expiration of the hard rubber patents.

The large income derived by Mr. Meyer from rubber found investment in many quarters. He was at one time president of the Nashawannuck Rubber Manufacturing Co., and the Gledale Elastic Fabric Co., a director in the State Bank of New Brunswick, a director in the Cincinnati, Hamilton and Dayton and two other railroad companies, a fire insurance company, the

American Bank Note Co., and a gas lighting company. He was interested also in the Norfolk and New Brunswick Hosiery Co. Not all his investments were successful, however, and particularly in railway shares. The personal property inventoried in connection with the probating of his will amounted to \$3,500,000, but it is believed that his fortune at one time amounted to a great deal more.

Mr. Meyer had a thorough knowledge of the rubber industry, combined with great executive ability, and a genius for invention, which enabled him to obtain a number of patents which proved of value to the trade and of profit to himself. He married Miss Margaret Evans, at Milltown, New Jersey, in 1840. He was survived by a son, John Christopher Meyer, who would have succeeded to his property, but who died within a few months. Several married daughters still survive. Mr. Meyer's residence during the latter part of

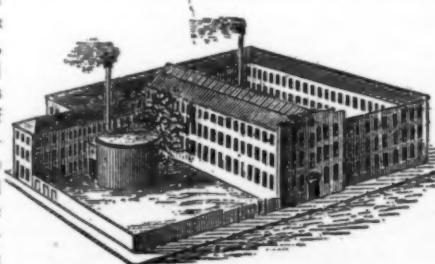


CHRISTOPHER MEYER.

[An American rubber manufacturer who was in his day the most conspicuous figure in the rubber industry.]

his life was in New York city.

It is understood that Mr. Meyer consistently declined all overtures made to him to join any combination in the trade, and he was credited with having more than once prevented, by his influence, the formation of a "rubber trust." The old factory of the Meyer Rubber Co., at Milltown, mentioned in the preceding column, has lately passed into the possession of the Michelin Tire Co. [See THE INDIA RUBBER WORLD, July 1, 1907—page 321.] This factory is not only one of the oldest rubber plants in the United States, but one of the most interesting in the way of very many historic associations.



DAY'S NEW BRUNSWICK FACTORY.

[Where Christopher Meyer started in the rubber trade. The factory was used later by the Hyatt Rubber Co. and the New Jersey Rubber Co.]

The Crude Rubber Field.

BALATA AND RUBBER IN BRITISH GUIANA.

THE possibilities of British Guiana as a rubber producing country have received considerable attention, according to a report on that colony in a recent Parliamentary paper. Rubber had been unknown as an article of export from the colony until two years ago, when a few hundred pounds were collected, and in the fiscal year 1905-06 nearly 4,000 pounds were exported. Already a few hundred acres have been planted with native rubber trees in the Northwest district, and several applications for concessions for rubber culture have been made to the government.

Balata has long been collected in important amounts in British Guiana, and owing to carelessness in the use of terms, has been referred to sometimes as "rubber." The colonial report quoted above says: "The highest recorded amount of balata was obtained during the year. The price at which it was selling being good, there was increased activity by all the licensees." The exports of this gum by fiscal years have been (in pounds):

1897-98....490,443	1900-01....425,371	1903-04....539,498
1898-99....468,569	1901-02....387,576	1904-05....501,509
1899-00....237,824	1902-03....540,800	1905-06....550,691

* * *

An action at law was instituted on May 4, 1907, at Demerara against the governor of British Guiana and the colonial commissioner of lands and mines by George Simpson Pitcairn, an engineer, and the British Guiana Rubber Corporation, Limited, seeking a mandamus to cause to be issued to the plaintiffs a license for collecting *Hevea* rubber and balata gum in certain areas for a term of years. Pitcairn claims to have had the promise of such license or concession and to have paid the legal fees required, and on September 27, 1906, the British Guiana Rubber Corporation, Limited, was registered in London, with £60,000 capital, for the purpose of exploiting the concession. A prospectus having been issued by the new company, the British colonial office issued a notice that no final undertaking to grant the licenses referred to had been made at the date of the prospectus, and that "those licenses have not been, and will not be, granted to the British Guiana Rubber Corporation, Limited."

Pitcairn's suit involves a claim for damages based upon estimated results from working the concession: "Net profits on the collection of rubber and balata for 5 years, on the bleeding of 30,000 trees yielding 6 pounds per tree per annum, at 72 cents per pound."

A later report is that the Full Court of the colony has decided this case in favor of Governor Hodgson, which is regretted by the Georgetown *Argosy* as tending to discourage enterprise in the colony.

Sir Frederic M. Hodgson, the governor, and his codefendant have filed an answer to the suit. They admit that the license to Pitcairn was approved in council, but it was not approved by the governor. They allege that the governor did not know Pitcairn as the agent of the rubber corporation and the governor had no dealings with the corporation, and they claim that a writ of mandamus will not lie against the governor, who is responsible for his official acts only to the Crown. The governor has been strongly appealed to by leading citizens to grant the concessions. The matter has even been brought to the notice of the British colonial office, which "considers it undesirable" that the Pitcairn action should be settled out of court.

* * *

BRITISH GUIANA is to have a rubber experimental station, for which public funds have been voted, with a view to deciding what rubber species is best adapted to culture in that colony. One matter to be taken in hand is to find out which of the vari-

eties of *Sapium* is the best producer of rubber. Several years ago Mr. Jenman, the government botanist, reported on the native rubber species of the colony, referring particularly to the *Hevea Spruceana* as a rubber tree of value.

"LANDOLPHIA DAWEI" AS A RUBBER PLANT.

OF the several rubber producing plants discovered in recent years in Uganda by Mr. W. T. Dawe, of the scientific department at Entebbe, one species of *Landolphia* is regarded as of exceptional value. It has been designated *Landolphia Dawei*. It furnishes an excellent rubber, specimens of which, sent to London, were valued at only 6d. [=12 1-6 cents] below the best Ceylon plantation rubber at the same date. The vines grow rapidly under cultivation. At a botanic garden at Monte Café, island of St. Thomas, some specimens were grown under the belief that they were the *Landolphia florida*. At five years they had reached a height of 25 meters [=82 feet]; at 12½ years one specimen, height not given, measured 13 inches in diameter at the ground.

It was once generally believed that the *Landolphia florida* furnished good rubber, but nearly all later authorities have declared the vine useless, the product obtained from the latex being at first sticky and becoming hard and brittle on keeping. The only recent evidence in favor of *Landolphia florida*, it now appears, was due to the inaccurate identification of certain plants at Monte Café and elsewhere, now acknowledged to be really *Landolphia Dawei*. The worthlessness of *Landolphia florida* as a source of rubber may be regarded as fully established.

Landolphia Dawei, by the way, has been found as far west as Kamerun, and is considered likely to prove one of the most valuable of the *Landolphias*, on account of the rapid growth and liberal yield of rubber. Mr. Dawe's explorations have also established the fact that *Funtumia elastica*, the West African rubber tree, extends eastward into Uganda.

NOTES.

THE Editor of THE INDIA RUBBER WORLD has received a sample of a shrub or vine that grows very freely in French Congo and is known as grass or herb rubber and belongs to the *Landolphia* family. A curious thing about the shrub is, that unlike guayule, the rubber appears in the dried bark, not in solution in the cells, but coagulated, so that when a stalk is broken hundreds of filaments of rubber are shown. The rubber extracted from this shrub is excellent.

The discovery is reported of an abundance of "manicoba" trees (*Manihot Glaziovii*, or Ceará rubber) along the Parnahyba river, in the Brazilian state of Piauhý.

The chief of the bureau of forestry in the Philippines, Major George P. Ahern, is quoted by a correspondent of the Chicago *Daily News* as saying that before the American occupation 400,000 pounds of gutta-percha were exported in a single year from Cottabato, in the island of Mindanao. The Americans placed restrictions upon the trade as a military necessity, but Major Ahern says that the gutta-percha export is reviving, and that as much as \$1,000 has been collected at Cottabato in a month under the law taxing exports at 10 per cent of the current selling price.

In the British protectorate of Southern Nigeria, West Africa, rubber is being planted systematically under government auspices. Something like 1,000,000 plants have been set, and they were reported lately to be doing well.

Henri Yves, inspector of agriculture for French West Africa, recently estimated that the planting of rubber in that government by the end of 1906 embraced about 4,000,000 lianes and 250,000 trees, and that the figures by the end of this year would reach 5,000,000 lianes and 500,000 trees.

THE EDITOR'S BOOK TABLE.

RUBBER IN THE EAST. BEING THE OFFICIAL ACCOUNT OF the Ceylon Rubber Exhibition held in the Royal Botanic Gardens, Peradeniya, in September, 1906. Edited by J. C. Willis, M. Kelway Bamber, E. B. Denham. (Peradeniya Manuals, No. 1.) Colombo: Government Printer. 1906. [Cloth. 8vo. Pp viii+269+maps and plates.]

THE authorities of the Ceylon botanic department have launched a long projected series of manuals of tropical botany, entomology, agriculture, and horticulture, by putting forth under their editorship a carefully prepared report of the Peradeniya rubber exhibition—the first of its kind ever held—including the lectures and discussions which gave the occasion the character of a rubber congress as well. The narrative account is well arranged, including descriptions of the exhibits and lists of the awards, besides which the lectures as given have had the benefit of revision by their authors. A good idea of the appearance of the exhibits is given by the numerous illustrations in the volume, and there are several maps of the rubber planting districts. As may be inferred from the title, this is not a Ceylon rubber book alone; the planting interests in Malaya are equally well represented. The contents of this volume, while of the same general character as the report of the rubber exhibition produced by the enterprise of the *Ceylon Observer* and already noticed in these pages, make of it, on the whole, a really different work. It is to be hoped that the editors of the "Peradeniya Manuals" will feel encouraged by the success of their first essay to make frequent addition to the series. We are not advised as to the price of this volume.

JAPANESE RULE IN FORMOSA. BY YOSABURO TAKEKOSHI, member of the Japanese Diet. Translated by George Braithwaite. London and New York: Longmans, Green & Co. 1907. [Cloth. 8vo. Pp xv+342+27 plates and map. Price, \$3.]

FOR one who wishes to read a well written book by an intelligent observer, about a country which one perhaps has never seen described in a book before, though it is rich in history of a certain sort and full of strange people and things, Mr. Takekoshi's work can hardly fail to be of interest. Moreover, it helps give an insight into Japanese public policy, seeing that Formosa affords the first important illustration of how the Japanese work at colonization. We take it that much is bound to be heard of Formosa under Japanese rule, and the book before us will serve as an excellent first course in reading in regard to that island and its resources. Rubber is not treated by the author, but we have shown [see THE INDIA RUBBER WORLD, December 1, 1906—page 73] that Formosa has rubber resources of importance. But a chapter is devoted to camphor, of which the island is the world's chief supplier, and the conditions under which this gum is obtained doubtless are similar to what will prevail in forest rubber gathering when that becomes more general in Formosa.

AN INDUSTRIAL ACHIEVEMENT. POPE MANUFACTURING CO., Hartford, Connecticut. 1877-1907. [Cloth. 4to. Pp. 85.]

THIS is no mere advertising book, though it must be admitted that "trade publications," so called, constitute an important part of technical and industrial literature. Whoever has ridden a bicycle is familiar with the name of Colonel Albert A. Pope, and when the history of good roads in America comes to be written no small share of the credit for the new era in highways will be given ungrudgingly to this enterprising New Englander who, while learning to ride an old-fashioned high wheel, first appreciated how very bad were the roads of this country. Times change, and businesses with them. Having placed himself at the head of the bicycle industry, at the time when that was of really commanding importance, Colonel Pope was in readiness, with the development of the automobile, to devote to the new vehicle the same measure of enterprise and energy that the bicycle had claimed from him in earlier days. The company of which he is the head to-day, while not dropping the bicycle, are most largely producers of motor cars, of many types, in a chain of factories stretching across the country.

It is recalled in THE INDIA RUBBER WORLD office that for some time after the vehicles now called automobiles began to be seen their development was still regarded as experimental, and it is just ten years since a leading article appeared in these pages, headed "Practical Introduction of the Horseless Carriage," pointing to a new and important demand for rubber tires, and in this article prominent mention was made of the Pope Manufacturing Co. From that time the automobile interest and the Pope company have grown apace, and this book: "An Industrial Achievement," is a welcome addition to the printed history of a remarkable development. The book is advertising matter, of course, but of such a high class, in every respect, that we shall be pleased to admit to review in this column any like publication that may be issued by any other house.

NOTES.

THE issue for February-March, 1907, of the *Annales de l'Institut Colonial de Bordeaux* is devoted to a report of a mission sent out from the institute to French West Africa to study the value of the rubber yielded by the "gohine" vine and the best means for collecting it. The gohine plant (native name) has been described as the *Landolphia Hendeletii* and also as *L. Senegalensis*. The mission reports favorably on the quality of the rubber, and its recommendations with regard to its treatment are likely to prove of value.

"La Culture Industrielle du *Ficus elastica*" has been reprinted in pamphlet form from the *Bulletin de l'Office du Gouvernement Général de l'Algérie* (Paris). It is a general account of this species, with special reference to the experiments with it by Professor Borzi at Palermo, Sicily.

"On a New Rubber Vine" is a report (in Japanese) by Takiya Kawakami, government expert in the bureau of productive industries in Formosa. It is printed, half-tone pictures and all, at Taihoku, Formosa. The plant is the *Ecdysanthera utilis*, named by B. Hayata, in the *Tokio Botanical Magazine*. The plant was described in THE INDIA RUBBER WORLD, December 1, 1906 (page 73).

AMERICANS IN THE CONGO.

THE mission of the Société Internationale Forestière et Minière du Congo, referred to already in these pages, left Antwerp on May 30 by the steamer *Bruxellesville*. The party included R. Dorsey Mohun, chief; S. H. Ball, of the United States Geological Survey, chief geologist and second in command of the expedition; Messrs. Shaler, Olivier and Smith, also on leave from the geological survey; A. Reid and B. Reid, brothers, prospectors; Dr. Hollebeke, physician; Messrs. Cordé and Reniers, agents. Mr. Mohun was United States commercial agent at Boma, on the Congo, in 1892-95, and United States consul at Zanzibar in 1895-97, after which he was in the service of the Congo Free State as a district *commissaire* of the first class. Dr. Hollebeke goes prepared to continue his experiments in the treatment of the sleeping sickness. The *Bruxellesville* also carried to the Congo four agents of the American Congo Co.

The Mohun expedition has gone out for two years' work in prospecting. King Leopold, who takes a special interest in the expedition, received Messrs. Mohun and Ball at Laeken before their departure, and, a Belgian newspaper reports, "conversed with them for more than an hour in the most cordial manner."

MOTOR CARS AND RUBBER.—It is to be presumed that in the course of a few years the many rubber plantations now being laid out will greatly enhance the world's total yield, and that then the price of rubber may fall. From present appearances the automobile cannot flourish without the rubber tire, and any development tending to reduce the cost of rubber and rubber tires means increased practicability for the motor car.—*The Horseless Age*.

Progress of Rubber Planting.

THE LONDON RUBBER SHARE MARKET.

WITH serious depreciations in share values reported in practically every section of the Stock Exchange, it is a matter for congratulation, says the London *Financier*, that the rubber share market has escaped participation in what, without exaggeration, can be termed the universal slump in prices. In many cases it is true that plantation share quotations are not so good as they were some time ago; on the other hand, the prices of the leading shares are higher, and the market in them more active and steadier than was the case at the beginning of the year. There has been some fairly heavy selling of these shares, and these orders, almost without exception, says the *Financier*, came from investment or semi speculative holders who, having been "hard hit" by the slump in railway shares and the like have been obliged to dispose of their sound marketable securities, and this forced selling has embraced rubber shares. Generally, says the *Financier*, the rubber shares when they pass from the hands of the original or early holders are taken by investors who mean to stick to them like glue, and the recent forced selling gave the purchasers opportunities for acquiring shares which, had Stock Exchange conditions been more favorable, would never have come upon the market at all.

MEXICAN PLANTING INTEREST.

MEYER NEWMARK, owner of "El Retiro" plantation, a privately owned property at Santa Rosa, state of Vera Cruz, Mexico, near Mr. James C. Harvey's "Buena Ventura" estate and several company owned rubber plantations, is reported by the *Mexican Herald* as planning to begin tapping this year his eight year old rubber trees, of which he has about 10,000. The Mexican Mutual Planters' Co. are also mentioned as about to begin tapping, and also the Société Anonyme Santa Rosa [see THE INDIA RUBBER WORLD, June 1, 1907—page 272].

The escrow created by the trust deed of July 8, 1898, between the Mexican Mutual Planters' Co. and The Equitable Trust Co., of Chicago, as trustee, under which the latter held 1000 of the plantation bonds provided for by said deeds, has been terminated, and the bonds delivered to the Mexican Mutual Planters' Co.

The Castilloya Rubber Plantation Co., incorporated under the laws of Oregon, November 16, 1906, has secured control of 5,000 acres of land in "Dorante's Survey," in the Department of Palanque, Chiapas, Mexico, on which they are planning to plant *Castilloya elastica* extensively. There are several other rubber planting companies in the neighborhood of their tract, which is twelve miles from Montecristo, on the Usumacinta river, navigable for steamers from the Pacific. The officers include W. H. Beharrell, president; J. C. Roberts, secretary, and C. V. Cooper, manager, and the offices are in the Chamber of Commerce building, Portland, Oregon.

THE "IOWA" RUBBER PLANTATION.

THE "Iowa" plantation of The German-American Coffee Co. now includes about 3000 acres of *Castilloya* rubber, some of it planted as early as 1900, all reported to be in good condition. Experimental tappings will be made this year. The plantation is on the river Michol, near its confluence with the Tulija, about 10 miles from El Salto, in the state of Chiapas, Mexico. The company are large producers of coffee, on the "Triunfo" plantation, also in Chiapas, opened about 13 years ago. At the last annual meeting it was decided to buy, at a cost of \$140,000, the building No. 406 Greenwich street, New York, used by the company as a coffee roasting plant, the purchase to be made from the profits of 1906. The company is a New Jersey corporation, with headquarters in New York and branches in a number of cities. The capital stock issued is \$1,541,300.

CEYLON AND THE MALAY STATES.

THE Pelmadulla Rubber Co., Limited, in Ceylon, with 1,185 acres planted to rubber (241,760 trees), estimate the average cost per planted acre at about £8 [= \$38.93], which would work out at about 20 cents (gold) per tree. They are tapping a few trees this year.

The production of rubber by the Anglo-Malay Rubber Co., Limited, in the Malay States, during May was 15,865 pounds against 4,656 pounds in May last year. The production during the twelve months of 1906 reached 91,719 pounds.

All the shares of the Anglo-Malay Rubber Co.—150,000 at £1 each—have now been issued, and all listed by the London Stock Exchange.

Lanadron estate, in Johore, owned by F. Pears, yielded 7,305 pounds of rubber in April, bringing the total since January 1 to 29,520 pounds.

At the annual meeting on April 29, of the United Planters' Association of the Federated Malay States that body ceased to exist, but was reorganized immediately as the United Planters' Association of the Malay Peninsula, thus widening to an important extent the territory represented by the membership. R. W. Harrison, chairman of the old association, and H. C. E. Zacharias, secretary, were elected to like positions in the new. Rubber planting will be the chief interest in the enlarged field of the organization, as it was in the old. The tenth annual report of the association showed 153,150 acres in private hands in the Federated Malay States at the end of 1906, with 52,843 acres under cultivation, of which 49,033 were under rubber.

PROFITS FROM "FICUS" AT CHARDUAR.

OF all the rubber plantations ever formed, probably the one about which most has been written, both in the way of information and misinformation, is the government experimental plantation of *Ficus elastica*, formed in 1873 at Charduar, in Assam. This was a small undertaking from the standpoint of acreage, but it has proved such a commercial success that the government is convinced that the experimental stage has now been passed and that the time has now come for disposing of the plantation by sale or lease. The net revenue for the last year was 23,381 rupees [= \$7,585.56].

TO PLANT RUBBER IN JAVA.

THE Simo Rubber Estates, Limited, was floated in London in June, with £35,000 capital, to acquire a group of estates known as Simo, in the north of Java, and to develop the cultivated rubber (*Castilloya* and *Ficus elastica*) now growing thereon, and to plant Pará rubber extensively. The estates already afford a profit from coffee, cacao, indigo, and pepper, which crops are expected to continue in bearing until the rubber becomes productive. The London company takes title from an Amsterdam company, at a valuation of £22,000. The directors of the new company hold similar positions in rubber plantation companies operating in Java and Ceylon.

SHANGHAI'S FIRST RUBBER COMPANY.

THE Dominion Rubber Co., Limited, has been formed by English residents of Shanghai, under the Companies ordinances of Hongkong, with a share capital of 225,000 taels [= \$168,300, gold], to purchase two rubber plantations in the Federated Malay States. They are G. L. Bailey's "Dominion" estate, in Selangor, and "Hendra" estate, owned by E. T. C. Garland, in Perak—each with 640 acres, with a total of 214 acres planted to rubber within two years, besides nurseries for further planting. The vendors take 52,500 taels in shares and 23,100 in cash, the latter being the amount expended on the properties to date.

CULTIVATED RUBBER FROM NEW GUINEA.

THE exhibit of the products of the Neu Guinea Compagnie, of Berlin, at the recent German Army, Marine, and Colonial Exhibition, at Berlin, served to call marked attention to the success of this important enterprise. The company are successfully planting a number of crops, the most important of which to date is coconuts, though it is designed ultimately to make rubber the most important. The specimens of rubber shown were considered the finest ever seen in Germany, including *Hevea*, *Castilloa elastica*, and *Ficus elastica*. The company had standing on their plantations according to a late report 426,917 rubber trees, the oldest being now in their ninth year, since which time further planting of rubber has been done. Of these, 277,761 were *Castilloa*, 128,238 *Ficus*, and 20,918 *Hevea*.

PLANTING IN GERMAN AFRICA.

THE Kautschuk-Pflanzung "Meanja" Aktiengesellschaft, of Berlin, founded in 1903, with 1,000,000 marks [= \$238,000] capital, to plant rubber in the German colony of Kamerun, in West Africa, have issued three yearly reports, showing the following amount of planting of *Kickxia* (*Funtumia*) *elastica*: 617½ acres in 1904; 148¼ acres at the end of 1905 (with 230,400 trees); 593 acres at the end of 1906. The company are also planting cacao.

RUBBER AT A WEST AFRICAN FAIR.

THE recent agricultural show in the British colony of Lagos, in West Africa, which embraced some 2,500 exhibits for competition, was in many ways successful. It was opened with an address by the governor, Sir Walter Egerton, who took occasion to impress upon the native chiefs present the desirability of advising their people to plant rubber (*Funtumia elastica*) trees. He said: "On my recent visit to Berrin I saw several of these plantations in a most flourishing state, and the inhabitants are already beginning to realize that they are likely to become profitable." The list of exhibits at the fair included: Rubber milk, 8 exhibits; rubber, prepared, 14; preparation of rubber, 3. Nine cash prizes were awarded, amounting in all to £23 [= \$111.92].

A RUBBER TAPPING BOX.

A NOVELTY in connection with work in rubber forests and on plantations is a special "travelers' box" for rubber explorers and also estate managers, fitted with appliances for tapping trees and coagulating latex, by various methods. The box contains an assortment of tapping tools, cups for receiving latex, various other latex receptacles, a small smoking outfit, a hand press, and coagulating agents. This is supplied by Gustave Van den Kerckhove, the rubber expert, 20, Rue de la Ferme, Brussels.

STATISTICS OF RUBBER PRODUCTION.

THE figures below relate to the quantities of rubber exported from the various British colonies named, and are derived from official reports. These figures are presented here not to prove anything in particular, but as a matter of historic record. It may be pointed out, however, that while the five colonies named yielded ten years ago nearly 11,000,000 pounds of rubber, their exports for the last year named amounted to only about 5,000,000 pounds.

GOLD COAST COLONY.

Pounds.	Pounds.
1897..... 4,957,016	1902..... 1,599,971
1898..... 5,984,084	1903..... 2,258,981
1899..... 5,572,554	1904..... 4,013,837
1900..... 3,452,440	1905..... 3,687,778
1901..... 1,520,009	1906..... 3,649,668

LAGOS.

Pounds.	Pounds.
1893..... 56	1900..... 596,332
1894..... 5,867	1901..... 194,277
1895..... 5,269,503	1902..... 151,440
1896..... 6,484,363	1903..... 131,311
1897..... 4,455,327	1904..... 265,458
1898..... 3,778,266	1905..... 266,560
1899..... 1,993,525	1906..... 927,638

SIERRA LEONE.

Pounds.	Pounds.
1896..... 1,491,392	1901..... 1,131,655
1897..... 1,305,696	1902..... 103,040
1898..... 649,712	1903..... 107,520
1899..... 546,385	1904..... 152,320
1900..... 274,646	1905..... 425,600

[a—For these years the official returns are in pounds; for other years in tons or cwts., and converted here into pounds.]

BRITISH CENTRAL AFRICA PROTECTORATE.
[Years ending March 31.]

Pounds.	Pounds.
1897-98..... 21,416	1902-03..... 11,723
1898-99..... 91,264	1903-04..... 4,262
1899-00..... 118,720	1904-05..... 17,664
1900-01..... 85,904	1905-06..... 17,283
1901-02..... 14,393	

[a—Includes 525 pounds cultivated rubber.]

BRITISH HONDURAS.

Pounds.	Pounds.
1896..... 19,895	1901..... 40,044
1897..... 13,797	1902..... 30,338
1898..... 37,622	1903..... 22,176
1899..... 55,321	1904..... 28,042
1900..... 48,996	1905..... 22,926

NEW TRADE PUBLICATIONS.

THE SCHAEFER RUBBER Co. (Cincinnati), successors to the long established firm of Kohmescher & Co., have brought out a new catalogue of rubber goods for the household, surgical use, stationers' and toilet supplies and the like, representing the products of a number of leading makers. [9" × 5¼". 100 pages.]

MASSACHUSETTS CHEMICAL Co. (Walpole, Mass.) issue a new catalogue and price list of Insulating Materials, embracing a number of special products of interest. The company's Walpole Rubber Works also turn out a variety of mold work. [6" × 5". 91 pages.]

THE DIAMOND RUBBER Co. (Akron, Ohio) send us "A Book of Instructions to Automobile Tire Users," in which is incorporated a catalogue of "Diamond" 1907 wrapped tread tires and the tire accessories made by the company. A liberal and helpful use is made in the book of illustrations of the articles referred to. [5" × 7". 80 pages.]



PLANTED CEARA RUBBER ("MANIHOT GLAZIOVII.")
[One year old; plantation at La Paz, Nicaragua.]

New Rubber Goods in the Market.

THE "IRIS" WOMEN'S SHOE.

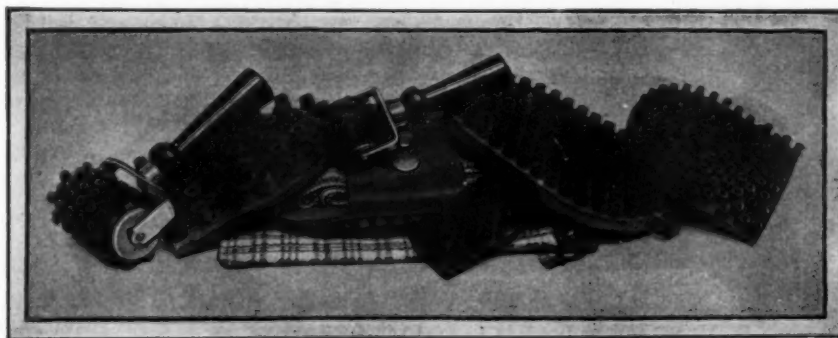
A NEW style in women's rubber footwear is the "Iris," of which an illustration is given here. It might be said that what this shoe lacks in quantity it makes up in quality. There is just as little of it as possible, and this very fact accounts for its being the "winner" that it is said to be. But the end it seeks is accomplished, for it insures dryness and that is all any rubber can do. The "Iris" shoe is cut as low as possible over the toe and at the sides, but high in the back. So low is it that at first it might seem to suggest slipping, but it doesn't. Lightness, attractive cut and good fit are qualities that combine well, and each vies with the other for first place in its recommendation. It is made on "Colonna" and "Cuban" lasts, in F and M widths. [Boston Rubber Shoe Co.]



THE "IRIS" WOMEN'S SHOE.

"VITA" HOLLOW TOOTHED RUBBER BRUSHES.

MASSAGE is receiving an increasing share of attention, perhaps more especially the attention of femininity, inasmuch as its practice may be made to develop the lines of beauty quite as well as the lines of health. There are three divisions into which massaging is generally divided—centripetal strokings, friction, and percussion. The first aims to stimulate the circulation by treatment affecting the heart; the second are circular manipulations performed over the muscles; the third—of two kinds, tapping and punctuating—is a means of developing firmness of flesh and



"VITA" HOLLOW TOOTHED RUBBER BRUSHES.

roundness of contour. The "Vita" hollow toothed brushes are flat ended, with hollow cups, and provide a surface of softness and resilience. The stimulating effect of the hollow cups is deeper than the skin, taking hold of the muscles and tissues and giving new life and action and developing the body to natural lines. The illustration shows the revolving brushes, the shampoo mitt, bath and massage brush, sponge brush, massage mitt, and tooth brush. The revolving brushes in the two sizes lend themselves especially to the purpose for which they are designed, that of a beautifier, and the crowning cylinder, for use about the eyes, nose, and mouth, is a special feature. The suction cupped cylinder stimulates the expulsion of secretions and impurities

through the pores; also, by stimulating blood vessels, it increases the flow of blood to the surface, thus supplying nourishment necessary to produce firm, healthful flesh. The rubber mitt is suggested for use on the scalp with the back and forth motions. These suction brushes are now being made in the form of applicators for use on vibratory massage machines. [The Flexible Rubber Goods Co., Winsted, Connecticut.]

THE "BLIZZARD" TIRE CASE.

THE 1907 model of the "Blizzard" tire case is one of the simplest yet. Simplicity marks a long stride towards very general acceptance of any article, and it might almost be said that this in itself stamps it as the "real thing." This tire case is actually adjusted without fastenings. It "slips on, holds fast, and fits smooth." It is adjustable in length, one size fitting tires from 28 to 32 inches in diameter, while another fits tires from 32 to 36 inches in diameter. It is also adjustable in width. There is one size to fit tires $2\frac{1}{2}$ to 3 inches thick, another to fit tires $3\frac{1}{2}$ to 4 inches thick, and a third to fit tires $4\frac{1}{2}$ to 5 inches thick. These sizes will fit practically any tire in use. They are made in artificial leather and enameled duck. [The Vehicle Apron and Hood Co., Columbus, Ohio.]



"BLIZZARD" TIRE CASE.

THE MEAD FASTENER, FOR SHOES.

THE easy, secure, simple and durable shoe fastener seems to have been combined in the Mead fastener. In the first place the variety of styles to which it may be applied is practically unlimited. For the pump shoe it affords a snug ankle fit and prevents the distressing slipping at the heel which sometimes has to be endured, and for overshoes, overgaiters, etc., it is just as good a friend as for the house shoe. In its entire absence of mechanism it makes the strongest plea for recognition, there being no springs, no catches and no snaps to be in constant danger of getting out of order and coming unfastened. It is referred to as the only fastener with a "take-up." Buttons for this fastener may be made in all colors and shades, which makes it possible to have perfect harmony and blending of colors so much in vogue at this time in footwear. One-half inch variation is given over the instep, and when fastened it lies perfectly flat. [The Ellis Lacer Co., Haverhill, Massachusetts.]

"STANDARD" CRAVENETTE OVERGAITERS.

RAINFOOT overgaiters are something quite new, though it is a wonder why their advent has been so long delayed. The raincoats, of which there are so many worn, will, after this, be but a part of the rainy day equipment, as the gaiters and leggings will play their part in protection from the storm. These leggings will be particularly welcome for children, and, being dustproof

as well as waterproof, will not spot, which makes them doubly to be desired. For women they are made in six and ten button lengths, and for men in five and eight buttons. For people who prefer to wear low shoes the year round with the coming of cravenette overgaiters the problem of comfort is solved. S. Rauh & Co., No. 310 Sixth avenue, New York, control the sole rights of manufacture in the United States.

THE COVER RUBBER GOGGLE.

A NEW rubber goggle consists of a single piece of pure gum, with curved and tapering walls projecting from the lens holding portions and terminating in a flat, yielding cushion which fits air tight. For the use of firemen in smoke and fumes, mica



COVER RUBBER GOGGLE.

lenses are used, because broken glass would endanger the eyes. For general use, large, clear glass lenses are employed which fit into grooves with elastic flaps and are air tight the moment inserted. The lenses can be removed, cleaned, and inserted again in a moment's time. The desirable features of this new goggle are the simple construction of a single piece of pure rubber, which is light; the setting of the glasses air tight the moment inserted, and the elasticity of the cushion members and their close air tight contact with the flesh about the eyes, even with the most irregular features. When desired, the goggle is ventilated by perforating the curved flange with a number of small holes. This goggle is also adapted to use by chemical workers, foundrymen, grinders, polishers, and the like. The forms and details of construction of this new goggle have been covered by three United States patents, and patents have been issued or are pending in foreign countries. [H. S. Cover, South Bend, Indiana.]

GOODALL HIGH PRESSURE HOSE MENDER.

The high pressure hose mender here illustrated is manufactured in connection with the Goodall hose coupling described in these pages last month. The same style clamps as those used



GOODALL HIGH PRESSURE HOSE MENDER.

with the coupling are employed here, the mending tube having a collar in the middle to which lugs or clamps catch. This device enables an absolutely safe and reliable splice to be made. [Knox Manufacturing Co., No. 153 North Fourth street, Philadelphia.]

RUBBER SHOES BY THE DIPPED PROCESS.

A PROCESS of manufacturing overshoes for which United States patent No. 832,278 has been granted consists (1) in depositing rubber in liquid form over a foot form; (2) allowing the deposit to assume a more solid character; (3) placing a reinforcing piece of sheet-rubber-containing material over the foregoing; (4) depositing a thin film of rubber containing material over the whole; and (5) vulcanizing. The working of the invention is best carried out by dipping the foot form into a bath of liquid rubber, both before and after the addition of the reinforcing piece of sheet rubber. Instead of a single bath of the



EMERGENCY RUBBER SHOE.

foot form, in the first step of the process, any number may be used, to make a shoe of greater weight or thickness, and the reinforcing sheet may be cemented on, together with a sole piece, if desired. The result, in brief, is to make a shoe by the dipped process. The product is an exceptionally light shoe, designed especially for ladies' wear. It is suited for being carried in small compass, as a precaution, when one is starting out in fair weather, but with rain threatening. [Emergency Rubber Co., Rochester, New York.]

RUBBER BUBBLES.

By the invention of "rubber bubbles" one of the greatest joys of childhood has been robbed of its unpleasant feature—soap and water. This makes it a most welcome successor to the old-fashioned method of blowing bubbles when wet clothing, wet boys and girls, and wet everything seemed to be the outcome. Yet such innocent sport can hardly be denied, and to the genius who has made it possible to allay the attendant fears of ruined



carpets, additional laundry work, general untidiness, and often contracted colds, will have the blessing of every household where there are children. The Rubber Bubble outfit consists of a small pipe (which, by the way, is not breakable), and rubber bubbles. The bubbles are easily adjusted in the owl of the pipe and inflated. When it has reached a diameter of about six inches a slight tossing motion will enable it to leave the pipe and go sailing over the room, a valve in the stem end keeping it inflated. Red and blue bubbles of the finest rubber make the children wild with delight. [The M. Lindsay Rubber Manufacturing Co., Washington, D. C.]

Recent Patents Relating to Rubber.

UNITED STATES OF AMERICA.

ISSUED JUNE 4, 1907.

- NO. 855,444.** Sprayer for hose nozzles. J. A. Carlson, Chicago.
- 855,468.** Wheel tire. [Solid rubber, with metal studded tread.] T. Midgley, Hartford, Conn.
- 855,627.** Air tube for pneumatic tires for wheels. [Lined with birdlime and chalk.] T. H. B. Gayner, South Melbourne, Australia.
- 855,693.** Apparatus for vulcanizing tires. J. C. Cole, Chicopee Falls, Mass., assignor to The Fisk Rubber Co.
- 855,712.** Protective cover for pneumatic or elastic tires. [Flat band armed with metal plates or studs.] J. J. P. LeGrand, Paris, France.
- 855,818.** Pneumatic tire [composed of a plurality of segmental air chambered sections.] W. R. Smith, assignor of one-half to H. H. Hewitt, both of Buffalo, N. Y.
- 855,868.** Cement composition and process of making the same. Andrew Thoma, Cambridge, Mass., assignor to Thoma Corporation, Portland, Me.
- 855,884.** Pneumatic tire. J. H. Green, Springfield, Ill.
- 855,899.** Tension regulating means for belts. F. D. Mercel, Toronto Junction, Ontario.
- 856,012.** Means of testing insulated wires. N. A. Wolcott, assignor to The Packard Electric Co., both of Warren, Ohio.
- 856,027.** Auxiliary felly and tire. [The tire pneumatic.] Charles Buckland, Havana, Cuba.
- 856,063.** Expandable pipe cleaner. [Described in THE INDIA RUBBER WORLD, July 1, 1907—page 309.] L. O. Howell, assignor to Sanitary Appliance Co., both of Philadelphia.
- 856,065.** Pneumatic tire. A. J. Jackson, Toronto, Ontario.
- 856,081.** Vehicle wheel. [Comprising a rim channel for a pneumatic tire, with attachable flange.] T. Midgley, Hartford, Conn.
- 856,093.** Syringe nozzle [with a catheter extremity adapted to enter a cavity.] H. F. Ong, Portland, Ore.

Trade Marks.

- 6,523.** George A. Alden & Co., Boston. At in heavy monogram, underneath which are the letters *M. R.*, all enclosed in a circle.
- 19,723.** W. M. Habirshaw, Yonkers, N. Y. The word *Habirshaw*. For insulated wires, cables, and cords.
- 26,123.** H. J. M. Howard, Washington, D. C. The word *Ajass*. For fire hose.
- 27,087.** The Republic Belting and Supply Co., Cleveland, Ohio. The word *Apollo*. For rubber belting, hose and packing.
- 27,102.** The Goodyear Tire and Rubber Co., Akron, Ohio. A circle enclosing a winged foot and the words *Goodyear* and *Heavy Tourist*. For elastic vehicle tires.

ISSUED JUNE 11, 1907.

- 856,241.** Portable self contained tire vulcanizing apparatus. [A steam generator with vulcanizing surface, a burner connected therewith having a curved upper service, and a shield curved to conform to this surface and movable over the burner.] H. H. Frost, London, England.
- 856,326.** Hose rack. R. D. Wirt, Philadelphia.
- 856,329.** Vehicle wheel. [With rim in circular sections adapted to hold a solid rubber tire.] E. D. Woods, Syracuse, N. Y., assignor of one-third (1) to H. A. Slack, (2) to W. A. Hyle, and (3) to E. A. Paul and C. Ecker.
- 856,387.** Innersole for shoes. [Embracing a layer of rubber sponge.] J. Belanger, assignor to J. Belanger, Labine & Co., both of Springfield, Mass.
- 856,401.** Hose coupling. E. J. Hannold, assignor to C. A. Witherspoon, trustee, both of Mexico, Mo.
- 856,411.** Sectional pneumatic tire. C. P. Mains, assignor of one-half to G. Deddens, both of Cincinnati.
- 856,447.** Automobile tire. [A central pneumatic tube, with a plurality of solid rubber tread tires.] F. D. G. Cook, Chippewa Falls, Wis.
- 856,494.** Pneumatic tire clip. E. C. Shaw, Akron, Ohio, assignor to The B. F. Goodrich Co.
- 856,505.** Overshoe retainer. [Molded of soft rubber, its lower part conforming to the inner wall of the heel and cemented thereto, its upper part standing inward from the cemented part and conforming to the receding part of the heel above the ball.] G. E. Zeigler, Economy, Pa.
- 856,526.** Tire for vehicle wheels. [Comprising a plurality of air sacks, with means for their inflation.] T. F. Hamilton, Chicago.
- 856,620.** Belt, apron, canvas, or conveyor tightener. G. E. Clarke, Toronto, Ontario.
- 856,657.** Automobile tire. [Comprising metallic springs within a rubber casing.] C. F. Obrecht, Baltimore, Md.
- 856,743.** Pneumatic tire. [The combination of the inner pneumatic tube with a continuous shoe enclosing the tube, a series of continuous circumferential removable wearing sections enclosing the shoe and arranged

side by side, and separate means for detachably connecting each of said sections.] J. O. Thomson, Philadelphia.

- 856,816.** Nozzle [for hose]. H. B. Sherman, Battle Creek, Mich.

Designs.

- 38,616.** Ornamental design for rubber ball. J. Fisher, Lambertville, N. J., assignor to Lambertville Rubber Co.

Trade Marks.

- 26,124.** H. J. M. Howard, Washington, D. C. Marking for fire hose, the center line being in yellow and the boundary lines in yellow.
- 26,125.** H. J. M. Howard, Washington, D. C. Marking for fire hose, the center line being in green and the boundary lines in red.
- 26,925.** The Rubber Products Co., Barberton, Ohio. Picture of an anchor surrounded by the words *Anchor Brand* and two stars, all enclosed within a rope border. For fountain syringes.
- 27,292.** Continental Rubber Co., Jersey City, N. J. A broken square in which the word *Square* appears. For raw rubber, and substitutes therefor.

ISSUED JUNE 18, 1907.

- 857,097.** Toy. [Comprising an inflatable bulb.] F. J. McCormack, Milwaukee, Wis.
- 857,106.** Gasket for pipe couplings. T. Pendergast, assignor of 51-100 to J. Hertzler, both of Lancaster, Pa.
- 857,134.** Gasket. E. A. Wilcox, Chicago.
- 857,281.** Ball bearing tube for tires. [A device for holding up collapsed tubular tires.] W. Hogben, Leominster, Mass.
- 857,335.** Wheel. [Comprises metal axle box, hub, spokes, felly and tire mounted upon axle box and composed of integral resilient material, the resiliency of the wheel being greatest in the tire, and least in the hub.] F. Ephraim, San Francisco.
- 857,365.** Guard for tires. [Plurality of plates flexibly connected and means for connecting the ends.] C. R. Saunders and A. B. Breitweg, Cleveland, Ohio.
- 857,495.** Machine for filling fabric for tires. W. R. Smith, assignor of one-half to H. H. Hewitt, both of Buffalo, N. Y.

Trade Marks.

- 11,544.** Turner Brothers, Ltd., Rochdale, England. The word *Firefly* on a black and white diamond shaped background. For engine packing and hose pipes.
- 25,587.** Pacific Coast Rubber Co., Seattle, Wash. A four-leaf clover with the letters *P. C. R. C.* on the leaves. For rubber shoes, clothing, and sundries.
- 27,429.** Continental Rubber Co., Jersey City, N. J. A broken triangle with the word *Triangle* on one side. For crude rubber and substitutes therefor.

ISSUED JUNE 25, 1907.

- 857,578.** Storm garment. Ida V. Benoit, New York city.
- 857,700.** Erasing appliance for use in typewriting. C. White, Baltimore, Md.
- 857,726.** Method of making leather tires. G. Durio, A. Durio, and G. Martina, Turin, Italy.
- 857,745.** Tire. [Composed of superposed layers cemented together at the sides and detached at the tread, and of a solid anti-friction material between the detached portions of the layers.] F. Mesinger, New York city.
- 857,771.** Belt conveyor. [Relates to the support.] E. G. Thomas, Brookline, Mass.
- 857,772.** Belt conveyor. *Same*.
- 857,796.** Automobile tire. [Having elastic metal bands in the tread.] G. M. Ewins, Cedar Rapids, Iowa.
- 857,830.** Wheel rim. [Adapted to a solid rubber tire.] F. K. Rand, and W. R. Hines, Cleveland, Ohio.
- 857,876.** Vehicle tire. [Removable protective casing for inner tubes.] J. B. Dumais, assignor of one-third each to W. L. and A. M. Doggett, all of Chicago.
- 858,029.** Pneumatic tire. [An outer tube, containing a concavo-convex air tube and a double convex core between the core and the tread.] M. V. Rush, Anderson, Ind.
- 858,031.** Overshoe. S. Schwarzachild, assignor to Emergency Rubber Co., both of Rochester, N. Y.
- 858,048.** Apparatus for the manufacture of elastic tires. R. M. Whitman, Providence, R. I.

Trade Marks.

- 5,166.** American Hard Rubber Co., New York city. The words *Goodyear*, *Crown*, *Flexor*, surrounded by a wreath and all surmounted by a crown. For sheet rubber.
- 16,776.** American Hard Rubber Co., New York city. The letters *A. H. R.* in semicircle and joined at the base. For hard rubber bowling balls.

18489. The Diamond Rubber Co., Akron, Ohio. Two small diamonds, each enclosing the letter *D*, and between these diamonds a *fleur-de-lis*. For hose, belting, and packing.
- 24,526. Continental Rubber Co., New York city. The words *Circle Brand* between the double lines of a circle. For rubber that has been washed or otherwise treated to eliminate dirt.
- 24,527. Continental Rubber Co., New York city. A guayule shrub. For rubber and rubber that has been washed or otherwise treated to eliminate dirt.
- 24,528. Continental Rubber Co., New York city. A double circle surrounding a guayule shrub, and between the two lines of the circle the words *Circle Brand*. For rubber that has been washed or otherwise treated to eliminate dirt.
- 24,529. Continental Rubber Co., New York city. The letters *C M R Co*. For rubber that has been washed or otherwise treated to eliminate dirt.
- 24,530. Continental Rubber Co., New York city. A circle just outside of which is the word *Circle*. For rubber that has been washed or otherwise treated to eliminate dirt.
- 26,921. W. S. Nott Co., Minneapolis, Minn. The words *W. S. Nott Co., Minneapolis, Minn.*, within a circle, across which is the word *Gibraltar*. For rubber belting, hose, and packings.

[Note.—Printed copies of specifications of United States patents may be obtained from THE INDIA RUBBER WORLD office at 10 cents each, postpaid.]

GREAT BRITAIN AND IRELAND. PATENT SPECIFICATIONS PUBLISHED.

The number given is that assigned to the Patent at the filing of the Application, which in the case of those listed below was in 1906.

*Denotes Patents for American Inventions.

[ABSTRACTED IN THE ILLUSTRATED OFFICIAL JOURNAL, MAY 29, 1907.]

- 2881 (1906). Leather pneumatic tires and tread bands. G. and A. Durio, and G. and G. Martina (trading as G. Martina & Figli), all of Turin, Italy.
- 2905 (1906). Hose union. J. Ambor, Hamburg, Germany.
- 2978 (1906). Bottle stopper with rubber washer. V. Gretsch, Stuttgart, Germany, and A. Henning, Leytonstone, England.
- 3001 (1906). Pneumatic tire, with tread of leather or wooden blocks. W. Clarke, London.
- 3079 (1906). Heel protector. H. Tannar, London.
- 3221 (1906). Expanding mandrel for jointing tire and other tubes. W. H. Welch and Harvey Frost & Co., London.
- 3237 (1906). Method and appliances for producing non-skidding grooves on tire covers. O. G. Moseley and D. Moseley & Sons, Manchester.
- 3285 (1906). Cover for handles of bottle cleaning brushes. J. L. Blair, Glasgow.
- 3314 (1906). Spongy filling for tires. R. Pfeleumer and others, Salzburg, Austria.
- *3326 (1906). Detachable split retaining flange for pneumatic tires. G. Schugers, Auburn, Indiana.
- 3332 (1906). Detachable tire retaining flange. R. Baresford, Newcastle-under-Lyme.
- *3416 (1906). Machine for washing or purifying india-rubber. [Described in THE INDIA RUBBER WORLD, August 1, 1906—page 356.] F. C. Hood, Boston, Massachusetts.
- [ABSTRACTED IN THE ILLUSTRATED OFFICIAL JOURNAL, JUNE 5, 1907.]
- *3440 (1906). Heels and soles studded with rubber to prevent slipping. L. R. Luchterhand and H. W. Newton, Dorchester, Massachusetts.
- 3460 (1906). Noiseless resistant fabric for shoe soles, tire treads and covers, and the like. [Fibers are so combined with rubber as to present their lengths diagonally to all the exposed surfaces.] E. Seeger and C. Medtner, Moscow, Russia.
- 3518 (1906). Pneumatic tire [with fine chain armor between air tube and cover to prevent punctures.] H. F. Mason, New Brighton, Cheshire.
- 3560 (1906). Support for hose pipes. G. W. G. Unite, Moseley.
- 3634 (1906). Non skidding device for heavy motor road vehicles. W. D. Venning, London.
- 3699 (1906). Rim for pneumatic tire, with removable side rim. W. A. Cameron-Walker, London.
- 3751 (1906). Solid rubber or wooden tire tread, in segments supported on pneumatic chambers. A. L. Lasson, Paris, France.
- 3851 (1906). Spray producer. [An apparatus for supplying oily, spirituous, or other fluids to the skin, scalp, or hair; comprises a rubber bulb in communication by a tube with a rigid reservoir forming the backing of the brush.] A. W. Brown and R. M. Berlyn, London.
- *3871 (1906). Dental plate swage. G. E. Freeborn, Belfast, New York.
- 3886 (1906). Elastic tire [formed of transverse bent metal strips supporting a tread band.] A. A. Joullain, Levallois-Perret, France.
- 3886A (1906). Elastic tire. *Same*.
- 3889 (1906). Treatment of india-rubber. [In order to prepare rubber for uniform vulcanization, it is freed from resins, etc., by treatment in the heated condition with glacial acetic acid or amyl alcohol, the latter being preferably mixed with water to keep down the temperature.] B. Gratz, Berlin, Germany.

- [ABSTRACTED IN THE ILLUSTRATED OFFICIAL JOURNAL, JUNE 12, 1907.]
4062. Timing device. [In a machine for winding threads of pneumatic tires, to measure the amount of thread to be supplied.] J. Hubbard, Ilford, Essex.
- *4092 (1906). Armored tread band for pneumatic tires. A. Lee and A. M. Sheimo, Maddock, North Dakota.
- 4108 (1906). Spring wheel. [An outer rim creeps round an inner rim, bearing, pieces of rubber being interposed.] R. C. Payson, London.
4218. Motorists' trousers, with toe pockets, of waterproof materials or fur. G. Good, London.
- 4337 (1906). Pneumatic tire with detachable tread. R. W. Cox, Harborne, Birmingham.
- 4450 (1906). Pneumatic tire with special tread surface. J. Richardson, Lincoln.
- 4485 (1906). Pneumatic tire with detachable rim flange. C. E. Jenkins, London, and G. E. Phillips, Ealing.
- 4564 (1906). Elastic tire. [Comprises tread and two wings extending diagonally into the rim so that in action the wings act as cushioning struts.] E. J. Duff, Liverpool.
- 4575 (1906). Spring wheel. [A hub in two parts is provided with elastic packing.] L. A. Garchey, Paris, France.
- 4608 (1906). Hose nozzle. S. Jackson, Shrewsbury.
- 4637 (1906). Disk wheels for motors, provided with solid rubber tires. R. T. Smith, Warrington.
- 4651 (1906). Elastic tire. [The cover has a pocket or tube for the reception of a cushion of sponge or other resilient material, and a core of cork, in sections, strung upon a circumferential wire.] J. Riley, Southampton, and F. Fitz Payne, London.

[ABSTRACTED IN THE ILLUSTRATED OFFICIAL JOURNAL JUNE 19, 1907.]

- 4692 (1906). Process for obtaining pure resin-free caoutchouc from raw rubber or rubber waste. B. Gratz, Berlin, Germany.
- 4701 (1907). Extraction of rubber by means of solvents and precipitants. *Same*.
- 4748 (1906). Pneumatic tire. J. B. Smith, Fleetwood.
- 4754 (1906). Spring wheel. [With rigid floating rim resting upon a solid or pneumatic cushion.] J. Partington, Saltaire.
- 4769 (1906). Boot soles of plastic gutta-percha composition pressed to the insole and fastened. L. Levy, Cologne, Germany.
- 4832 (1906). Pneumatic tire, with armored cover of leather segments. Della Rovere, Bagnai, Italy.
- 4867 (1906). Pneumatic tire with non-slipping armored tread. A. and G. A. Roberts, Gripwell Works, Birmingham.
- 4921 (1906). Pneumatic tire with puncture preventing device. C. A. Beaumont, Wakefield.
- 5122 (1906). Tire formed of rows of springs, with intermediate solid rubber tires; or the springs may be filled with rubber. G. A. Goodwin, London.
- 5140 (1906). Pneumatic tire held between side flanges, one or both detachable. J. J. Purdie, London.
- *5242 (1906). Spring wheel with solid rubber tire. J. Sinnott, Philadelphia, Pa.

THE FRENCH REPUBLIC.

PATENTS ISSUED (WITH DATES OF APPLICATION).

- 371,531 (Nov. 15, 1906). Société Parisienne du Caoutchouc Industriel. Pneumatic tire valve.
- 371,600 (Nov. 19). Thraver et Mac Namara. Method of pneumatic tire repairs.
- 371,626 (Nov. 20). E. Meccand. Pneumatic tire protector.
- 371,631 (Nov. 20). J. Natanson. Elastic tire.
- 371,684 (Nov. 20). Diaz di Soria et Jacob. Pneumatic tire cover.
- 371,701 (Nov. 21). Gaultier. Pneumatic tire.
- 371,710 (Nov. 21). Société le Caoutchouc. Tricot cover for tires.
- 371,784 (Nov. 24). E. Anselmi. Apparatus and process for vulcanizing tire repairs.
- 371,795 (Nov. 26). J. Pyat. Device for detaching pneumatic tires.
- 371,800 (Nov. 26). Société Michelin et Cie. Dual detachable pneumatic tires for motor cars.
- 371,817 (Nov. 28). Mitchell Punctureless Pneumatic Tire Co. Elastic tire.
- 371,947 (Nov. 24). A. Garneau. Pneumatic tire tube.
- 372,013 (Dec. 3). J. E. Galland. Fabric for pneumatic tires.
- 372,030 (Dec. 1). Champault et Tourliere. Tire with metallic armored tread.
- 372,044 (Dec. 1). Revere Rubber Co. Vulcanizing mold.
- 372,024 (Dec. 1). Hadfield et Johnston. Process and apparatus for vulcanizing articles of caoutchouc.
- 372,080 (Dec. 4). H. Turner. Protective tread for tires.
- 372,091 (Dec. 4). Tisseyre. Cork lined tire.
- 372,292 (Dec. 7). Continental Caoutchouc and Gutta-Percha Co. Protectors for pneumatic tires.

[NOTE.—Printed copies of specifications of French patents may be obtained from R. Bobet, Ingenieur-Counsel, 16 avenue de Villiers, Paris, at 50 cents each, postpaid.]

New England Rubber Club's Outing.

FOR the fifth time in its history the New England Rubber Club, on July 17, held its Midsummer Outing at the Country Club, Brookline, Massachusetts, than which no better place on earth could be selected for such a function. Besides, the visiting club has always had a sense of compliment in that it, of all trade organizations, has been admitted to this oldest and most exclusive of American country clubs.

The story of the day's outing would naturally read as it has for years past. There were 125 or more present, and they came in automobiles, special cars, and by train. For sports there were golf, tennis, quoits, and billiards, and at 4:30 in the afternoon a hotly contested baseball game between the rubber manufacturers and the importers. Then in the evening there was the usual excellent dinner, with instrumental music, songs, and speeches. So far it will be seen that the description of the day's enjoyment would really cover any one of the four outings that have preceded this with the exception, perhaps, that the day, although hot, was without rain, and the consensus of opinion was that there was more genuine fun and more really good fellowship shown on this outing than at any of the previous ones.

At 7 o'clock promptly all were seated in the banquet hall and ample justice was done to the menu, which is reproduced on this page.

After coffee, President Stedman addressed the Club as follows:

PRESIDENT STEDMAN'S REMARKS.

GENTLEMEN AND FELLOW MEMBERS OF THE NEW ENGLAND RUBBER CLUB: While this gathering of our Club members is intended to be quite informal, I feel it incumbent upon me to say a few words. I wish first to express my earnest and heartfelt appreciation of the great compliment you have paid me by elect-

ing me to the high office of standard bearer of your Association for the present year. Such expression of confidence in, and I may perhaps be permitted to say, esteem, coming as it does from such a body of men, representing, as they do, one of the most important industries of our country, should not be held lightly by the man so highly honored.

It seems to me but a few months since when a handful of men imbued by that indomitable spirit, H. C. Pearson, known to every man of us by the familiar term of "Henry," met together and organized this Association, since grown to include representatives not alone from all the important rubber firms and companies of New England, but those from the width and breadth of the whole United States and Europe, as well as the trades subsidiary to the rubber business.

MENU.

Consomme	Little Neck Clams	Cream of Chicken
	Olives	Radishes
Cucumbers	Fried Filet of Sole	Tartar Sauce
Delmonico Potatoes	Saddle of Lamb Mint Sauce	New Peas
	Roast Squab Jelly	
	Julienne Potatoes	
	Escarole Salad	
	Country Club Cheese	
Strawberries	Vanilla Ice Cream	Assorted Cake
	Coffee	



GROUP OF MEMBERS OF THE NEW ENGLAND RUBBER CLUB, AT THE COUNTRY CLUB.

While many names have been added to our list of members, which is steadily growing, many names have been erased, not because they have lost interest in the Club and in its members, not because they have tired of joining in our festivities, but as the Scripture teaches, "they have gone before to prepare a place for us."

Since our last meeting of one year ago, several have passed to the great beyond. The last of our members to be taken is Mr. Edgar S. Hyatt, who died one week ago to-day, in Chicago—a genial, affable gentleman, greatly mourned by his associates. While we are gathered around this board indulging in the social intercourse and pleasure usually entered into at this season, I do not wish to turn your hour of jollification into one of mourning, but I will ask you to stop one moment, all stand, and drink a silent toast to our departed fellow members.

Now, gentlemen, I will not detain you longer, but before closing I wish to reiterate my thanks and appreciation of the honor you have done me and pledge, if pledge be necessary, my continued interest in, and fidelity to, the New England Rubber Club, and my friends who are its members.

We will now hear from the chairman of our Committee on Sports, who will present the prizes. The members of that committee have been untiring in their efforts to give us the best outing we have ever had, and I can truthfully say that they have succeeded admirably. I take pleasure in introducing the silver-tongued orator, Mr. Wilbur E. Farrington.

THE AFTER PROCEEDINGS.

Mr. Farrington then proceeded, with a few graceful remarks, to present the golf prizes, as follows: Best gross, Frederick C. Hood—prize, cut glass silver mounted jar; best net, David A. Cutler—prize, glass decanter in engraved silver deposit; second net, R. L. Chipman—prize, dozen gold balls; best net among the guests, F. S. Dane—prize, dozen golf balls.

President Stedman announced that the memories of the exceedingly pleasant outing at Paddocks Island last year, when the club was the guest of the army officers stationed at Fort Andrews, were well worth living over again, and that as Major H. C. Davis, Dr. Luke D. Peck and Lieutenant R. P. Winslow, of Fort Andrews, were present as guests, the club would be delighted to hear from them. Each of these gentlemen spoke briefly and interestingly, and they were followed by Mr. George Puchta, of Cincinnati; Mr. Joseph Davol, Mr. George E. Hall, the club's treasurer, Mr. Fred H. Jones, and Mr. H. C. Pearson.

Along the line of finances, the president said just here that there were two unsettled bills that he wanted to call the attention of the Club to, one being "Bill" Barker, and the other "Bill" Kelly, neither of whom was present, both of whom were missed, and a statement in full demanded their presence at all future outings.

The club paid a very hearty tribute during the exercises to President Stedman, when in response to the toast: "Our President—known to his friends as 'Steddy'—the most friendly, modest and tactful of them all," the members rose in a body and gave him three hearty cheers.

Taken all in all, the outing was by far the most enjoyable yet, and it is only fair that the Dinner, Sports and Entertainment committees, and particularly the chairmen, should receive ample credit for the success attained.

The baseball game resulted in a score of 9 to 7 in favor of the Importers. The players and the runs made were as follows:

IMPORTERS.		MANUFACTURERS.	
Chipman, p.....	3	Styles, 1b.....	2
Paine, 1b.....	3	Hood, 2b.....	0
Farrington, c.....	1	Glidden, s.s.....	1
Page, 2b.....	0	Duncan, 3b.....	1
Cutler, 3b.....	0	Peck, p.....	0
Garrison, s.s.....	1	Tyer, c.....	2
Wadbrook, 1f.....	0	Jones, 1f.....	0
Stedman, c.f.....	0	Duval, c.f.....	1
Dunbar, r.f.....	1	Dane, r.f.....	0

INDIA-RUBBER GOODS IN COMMERCE.

EXPORTS FROM THE UNITED STATES.

OFFICIAL statement of values of exports of manufactures of india-rubber and gutta-percha for the month of April, 1907, and for the first ten months of five calendar years:

MONTHS.	Belting Packing and Hose.	Boots and Shoes.	All Other Rubber.	Total.
April	\$126,284	\$44,971	\$350,925	\$522,180
July-March	914,276	962,964	2,664,967	4,542,207
Total	\$1,040,560	\$1,007,935	\$3,015,892	\$5,064,387
Total 1905-06....	1,035,705	1,360,346	2,369,480	4,765,531
Total 1904-05....	794,256	1,100,093	2,064,066	3,958,415
Total, 1903-04....	734,083	971,625	2,036,682	3,742,390
Total, 1902-03....	680,147	983,044	1,881,773	3,544,964

BRAZILIAN IMPORTS OF RUBBER GOODS.

OFFICIAL statement of values (in milreis), during four calendar years. [These figures doubtless fail to include many articles embracing more or less rubber, but classified under other headings than manufactures of rubber.]

FROM—	1903.	1904.	1905.	1906.
Germany	873,250	797,664	657,826	581,451
United States....	150,226	156,639	127,842	123,903
France	289,371	275,602	271,886	240,161
Great Britain....	767,308	714,016	800,835	680,811
Italy	189,872	218,164	252,156	136,501
Other countries...	104,237	118,677	93,837	48,110
Total	2,374,823	2,280,762	2,205,382	1,810,937

Equivalent with exchange at 12 pence per the first two years and about 15½ pence in 1905 and 1906:

	1903.	1904.	1905.	1906.
U. S. gold.....	\$577,853.81	\$554,966.41	\$693,140.00	\$569,161.50
Sterling	£118,741 3s	£114,038 2s	£142,430 8s	£116,955

The Brazilian figures, as might be expected, do not correspond with the statistics of other countries of rubber goods to Brazil, owing, if for no other reason, to differences in classification. The United States report rubber goods exports to Brazil during five fiscal years (ending June 30) in value as follows:

1901-02.....	\$17,922	1904-05.....	\$51,332
1902-03.....	27,797	1905-06.....	42,080
1903-04.....	29,419		

RUBBER SOLE PRESSING PAD.

UNDER a new invention for which patents have been issued to the United Shoe Manufacturing Co. (Boston), sole pressing pads of sole laying machines are formed of yielding elastic material having certain portions composed of harder material than the remainder. In the illustration of the pad



shown herewith the fore part (at the right) is of soft rubber and the heel part (at the left) of harder rubber, the two parts preferably forming a continuous integral pad. The heel part is shaped to present a raised surface similar in shape to, but somewhat smaller than, the heel seat. The pad is covered with a sheet of sole leather which has been previously molded to shape. The holder for the pad is the same as that used in the well known Goodyear sole laying machine.

"LEAD EATERS."—As is generally known, the first practical use made of india-rubber in England was for erasing pencil marks, and an early encyclopedia mentions the substance as being popularly called "lead eater." A writer in the *London Chronicle* says that "lead eater" was still a name in use in some places a half century ago.

The Obituary Record.

EDGAR S. HYATT, widely known in the rubber trade, died suddenly on the evening of July 11, at the Auditorium Annex Hotel, in Chicago, which city he was visiting on business. Funeral services were held on July 15, at Plainfield, New Jersey, where Mr. Hyatt had resided for some years.

Mr. Hyatt was a native of New York city, and was in his fifty-eighth year. His father, the late Lewis Legrand Hyatt, sustained an important relation to the india-rubber industry for an unusually long period. In 1845, at the age of 25, he joined the Ford Rubber Co., then just beginning the manufacture of rubber footwear, at New Brunswick, New Jersey. The principals were John R. Ford and Christopher Meyer, with whom Mr. Hyatt remained associated for many years. He left them in 1855 to go to France with the founders of what has become the important rubber factory of the Hutchinsons, at Montargis.



EDGAR S. HYATT.



GEORGE C. SMITH.

A little later he was again associated with Messrs. Ford and Meyer in the North British Rubber Co., Limited, remaining at Edinburgh for ten years. Mr. Hyatt in 1870 organized the Hyatt Rubber Co., later the New Jersey Rubber Co., at New Brunswick, where again he was interested with Ford and Meyer. The plant burning down, Mr. Hyatt again went to Europe, engaging finally in the celluloid industry in London, where he died August 1, 1903, in his eighty-fourth year. Lewis L. Hyatt was survived by a widow, after 59 years of married life. *THE INDIA RUBBER WORLD* happens to be publishing in this issue a sketch of Christopher Meyer, which contains further information on the history of the rubber industry in the period referred to.

Edgar S. Hyatt, the subject of this sketch, was about nine years of age when he went to Europe with his parents, and lived first in Paris. He went thence to Edinburgh, and was for some time a student in the University of Edinburgh. He next turned his attention to the rubber industry, for which he received his first training in the works of the North British Rubber Co., Limited. Mr. Hyatt returned with his father to America, and filled the position of superintendent in the factory of the Hyatt Rubber Co. (later the New Jersey Rubber Co.), mentioned in the preceding paragraph, and afterward they went to Europe together. Edgar Hyatt returned to America in 1897, since which time he has made his home in Plainfield, N. J. For several

years he has been connected with George A. Alden & Co. (Boston), visiting in their interest leading rubber manufacturers throughout the country, introducing their goods, including latterly guayule rubber.

Mr. Hyatt was universally liked, for his strict integrity and loyalty and for his sunny, amicable nature. He is survived by a widow and two daughters. Messrs. George A. Alden & Co. issue this notice:

"It is with deep regret that we announce the death of Mr. Edgar S. Hyatt. In making this sad announcement we desire to pay our last homage to a friend and faithful associate, and to express our appreciation of his untiring zeal and devotion to our interests."

TRIBUTE OF THE NEW ENGLAND RUBBER CLUB.

The following resolutions were adopted by the New England Rubber Club on July 17, at Boston:

THE sad news of the sudden death of our friend and fellow member, Edgar S. Hyatt, came as a great shock to the members of the New England Rubber Club.

The son of one of the honored pioneers of the rubber trade, and himself connected with it for many years, both in this country and abroad, his loss will be most keenly felt; a man of wide acquaintance, sturdy, energetic, loyal, friendly, the whole trade will miss him.

Resolved, That this Club extend to his family its sincere and heartfelt sympathy.

Resolved, That these resolutions be spread upon the records of the Club and a copy engrossed and sent to his family.

GEORGE P. WHITMORE,
E. E. WADBROOK,
ALEXANDER M. PAUL,
Committee on Resolutions.

Mr. Hyatt was a member of the Plainfield County Club, and Grace Episcopal Church, of Plainfield.

GEORGE C. SMITH.

GEORGE C. SMITH, general superintendent of the works of the New York Rubber Co., died in Roosevelt Hospital, New York, on the evening of July 19, following an operation, at the age of 68 years. Mr. Smith became employed at the rubber works, located at Matteawan, N. Y., about 46 years ago, since which time his connection with them has been unbroken save for a few months during the Civil War, when he was in the service of the Government. When the late Thomas S. Judson died, in the latter part of 1902, leaving vacant the position of general superintendent of the New York Rubber Co., Mr. Smith, then superintendent of one of the important departments, was promoted to succeed him. Mr. Smith's home was at Fishkill Landing, N. Y. He took an active part in local politics, as a Republican, and was a member of the Masonic fraternity. He is survived by a widow and a brother. The factory was closed on July 22, the day of the funeral, and the office in the city during the afternoon.

MRS. EMMA CONVERSE CHICK, of Boston, who died at her summer home at Swampscott, Mass., on July 10, was the wife of Isaac W. Chick, whom she married October 31, 1877. Mrs. Chick was a daughter of the late James W. Converse, long associated with the Boston Rubber Shoe Co., of which his brother, the late Elisha S. Converse, was the active manager for a half century. Mrs. Chick was a sister of Costello Coolidge Converse, now vice-president of the Boston Rubber Shoe Co. The interment was at Forest Hills Cemetery, Boston, on July 13. A son and a daughter survive.

A Page of Tire Features.



HERZ'S ANTI SKIDDING TIRE.

[The steel studs are carefully imbedded in fabric and rubber, as indicated in the illustration. Their use avoids the deleterious effect of leather upon rubber tire covers. These tires are made in Austria, the sole agents in the United States and Canada being Herz & Co., No. 203 Lafayette street, New York.]



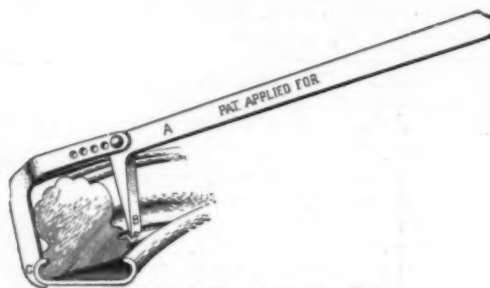
THE CRESCENT REMOVABLE RIM.

[This rim, called formerly the "Harburg," for holding a spare inflated tire for quick replacement in case of a puncture, fits close on the wheel, but does not bind where it ought not to. It is as immovable and unaffected by road shocks as a permanent rim. By its use a complete tire change can be made in three minutes. The Crescent Parts Co., Broadway at Fifty-sixth street, New York.]



THE MCKINLEY REMOVABLE TIRE HOLDER.

[The attachment to the car fixtures is by a bayonet locking device which does not require the use of any bolts or nuts. The jaws can be extended for one or two tires, and the foot pieces are furnished in two forms, the plain used with a strap and the other of solid metal suitable for locking the tires. The Baldwin Chain Manufacturing Co., Worcester, Massachusetts.]



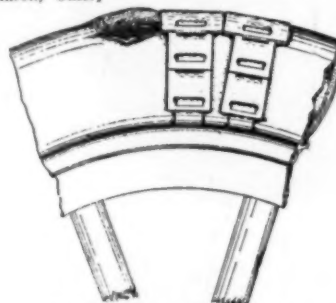
THE MOTZ TIRE APPLYING TOOL.

[By the use of this tool it is stated that a Motz solid or cushion tire may be applied or removed in about the same length of time as a pneumatic. The tire can be put on only in one way—the right way. The Motz Clincher Tire and Rubber Co., Akron, Ohio.]



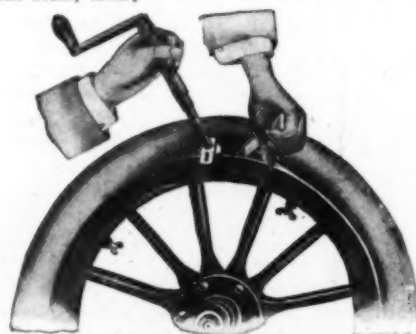
NEW MOTZ NON SKID CUSHION TIRE.

[The old shape tire of convex tread with concave sides has been changed in the New Motz to a concave tread with supports on the side, thus eliminating the skidding and rocking difficulties. The Motz Clincher Tire and Rubber Co., Akron, Ohio.]



KIMBALL STEEL TIRE ARMOR.

[Made of flat steel links hooked together, put on over the tire and hooked to the rim, or held on the same way as the tire. Each section is 2 inches wide at the tread plate. About 50 bands or sections are required for a 32 inch tire. The armor prevents tires from bursting. Kimball Tire Case Co., Council Bluffs, Iowa.]



[Inserting the Tool.]
THE "EVER READY" TIRE TOOL.

[This tool "rolls" round the circumference of the tire through the turning of the crank. The corrosion of parts often prevents tires from being detachable, but this offers no trouble when the "Ever Ready" tool is used. When not in use this tool can be folded up in small compass. Auto Improvement Co., No. 316 Hudson street, New York.]

POINTS ON RUBBER TIRES.

THE BEST WHEEL FOR THE TIRE.

AN automobile supply firm at Jamaica, Long Island, report to THE INDIA RUBBER WORLD having run two Diamond tires for 30,000 miles each, without repairs other than the recovering of one of the casings. They write further: "All of these records [including one of 9,000 and one of 11,000 miles] were made on White steamers, and all but one on the right front wheel, the other on the left front which confirms—at least to our satisfaction—our contention that the right front wheel is the easiest on the tire, owing to the track which it follows always being the most carefully observed by the operator."

RUBBER TIRES IN BRAZIL.

THE American consul general at Rio de Janeiro, in a recent report on the market for rubber tires, wrote: "The rubber tires now used come principally from France, though some are manufactured in Brazil." In response to a request from THE INDIA RUBBER WORLD for further details, Mr. Anderson says:

"At the time the report you refer to was written there was an attempt to make solid rubber tires on a small scale here, and I am told that the matter was also considered and perhaps tried in Sao Paulo. With the facilities had here, and with the comparatively small demand for tires in Brazil, the attempts were little more than experiments and have failed."

Mr. Anderson thinks that a well equipped establishment under proper management—perhaps as a branch of a foreign factory—might be operated successfully in Brazil, but its problem would be first to stimulate the use of rubber tires. Solid rubber tires for a victoria cost at Rio about \$140, American gold, and pneumatics about \$190, including duties and other import costs of substantially 50 per cent.

CHEAPER TIRES FOR ASSOCIATION MEMBERS.

MEMBERS of the Association Générale Automobile of France, according to the official *Revue* of the association, are entitled to buy many kinds of accessories at a discount from manufacturers' lists, including pneumatic tires of the following makes, at the reductions stated below:

Bergougnan .. 20%	Dunlop 8%	Hutchinson ... 15%
Bouland 10%	Dynamic 15%	Jenatzy 8%
Calmon 6%	Edeline 10%	Michelin 5%
Clincher 14%	Electric 20%	Persan 10%
Colonial Rub. . 20%	Engelbert 10%	Torrilhon 8%
Continental ... 8%	Falconnet 15%	Veritas 10%

A PNEUMATIC TIRE SHIELD.

A RECENT invention relating to vehicle wheels involves the combination with a pneumatic tire of a rigid metallic shield which is extended inwardly beyond the middle plane of the pneumatic tire and bears snugly against its sides. The shield comprises two circumferentially separable sections and means for holding them together. The purpose of the shield is to provide spaces between the side bearings and the tread portion into which the pneumatic tire may blow when distorted under pressure. Patents have been granted for this invention to John Thomson, of New York, assignor to the Trident Tire Co.

BRIEF MENTION.

THE Fisk Rubber Co., in addition to their regularly mechanically fastened type of tire, are building a clincher which is put out for renewal purposes only. It is of their heavy car type of construction and designed to be as nearly puncture proof as a pneumatic can be made.

S. P. Applewhite has applied to the government of Mexico for a concession to establish in that republic a factory for making pneumatic tires and other articles of rubber.

How to locate the spot where a puncture occurs is something that a great many enthusiasts and experts spend time

on, and among late suggestions is one whereby smoke is forced into the tire, coming out later through the puncture; another is to blow a small quantity of fine coloring matter into the tire, dampening the outer surface, and when the air exudes through the hole the coloring matter comes with it and makes a small stain about at the punctured part. Those who have a fine eye for color can select shades that synchronize with their neckties or with the body of the car, and not only locate the puncture, but gain some beautiful effects as well.

LONDON MOTOR 'BUSES.

THE London motor 'bus companies, organized with such a flourish a year or so ago, and which were looked to as promising so great a demand for rubber tires, have not fully realized the promises made in their prospectuses. Recently four of the larger companies have been merged, under the name Vanguard Motor Bus Co., Limited, the four old companies going into liquidation. Their shareholders were informed that the limited success of the enterprises had been due (1) to inconvenient restrictions placed upon the motor 'bus traffic by the authorities, and (2) to the great number of accidents to persons and property, and the heavy damages which persons with grievances had been able to obtain through the courts. It is believed, however, that more favorable regulations will be obtained, that the number of accidents will be lessened as the public become accustomed to the new vehicles, and that with the decline of popular prejudice the courts will be more lenient in assessing damages. The 'buses in use are carrying millions of passengers, and the companies are learning economies in operation without rendering the service less efficient.

The Vanguard Motor Bus Co., Limited, at the end of June had 267 'buses licensed for service, and 160 new 'buses, or undergoing alterations, for which licenses would be requested. The share and debenture capital authorized is £1,500,000; amount issued to July 6, £990,000. The total number of motor 'buses in London, according to a recent census taken by *Motor Traction*, was 977, of which 343 were at that time credited to the Vanguard Company.

* * *

THE Berlin General Omnibus Co. have been the subject of unfavorable reports, which have led to a heavy decline in the market price of their shares. A dividend of 15 per cent. was distributed in 1905, and only 5 per cent. last year. The *London Financial News* is advised that it is doubtful if there will be any dividend this year.

MURAC.

TO THE EDITOR OF THE INDIA RUBBER WORLD: Our attention has been called to a very interesting article headed "Murac," appearing in the current issue of your journal [June 1—page 268], but it is hardly consistent with the technical facts to state that we are only using balata in its manufacture. We have the pleasure of informing you that we can successfully convert balata into murac, and as you are no doubt aware, we are always willing to grant any one a full investigation of our process, as our books are opened to all interested parties. We trust you will put us right in this matter, as we want murac to be a hall mark for high standards of mixtures. We enclose a sample of sheeting, made from *very cheap* Lagos rubber 85 per cent., pure murac (33) 15 per cent., and vulcanized with 10 per cent. sulphur. We are rather proud of the result, as without the addition of murac in this mixture the rubber would have been very lazy and almost unworkable.

THE BRITISH MURAC SYNDICATE, LIMITED,

MORLAND M. DESSEAU, Manager.

London, June 15, 1907.

RUBBER INTERESTS IN EUROPE.

GOOD PROFITS IN LINOLEUM.

AT the thirteenth annual meeting of the Greenwich Inlaid Linoleum Co., Limited (London, May 29), working Frederick Walton's new patents, the year's accounts showed a net profit of £76,125 12s. 11d. [=£370,465.45]. The results were the best they had ever had, despite the advances during the year in linseed oil and cork. Dividends—5½ per cent. on the preference capital (£100,000) and 15 per cent. on the ordinary (£240,000)—absorbed £41,500; debenture interest, £5,400; added to reserves, £20,000; carried forward, £7,725. The meeting was presided over by the company's chairman, Sir William Treloar, J. P., lord mayor of London.

SILVERTOWN EMPLOYEES' PICNIC.

THE employees of The India-Rubber, Gutta-Percha and Telegraph Works Co., Limited (Silvertown, London), to the number of 850, enjoyed their eleventh annual summer excursion on June 29, going this year by special train to Clacton-on-Sea. Arrangements had been made for the admission of the visitors to many of the amusement resorts at Clacton free, and to the others at half price. Boating and bathing were indulged in by many of the party and the "Works" played the Clacton Cricket Club, the visitors losing. Altogether the excursionists spent 11 hours in Clacton, forming what a local paper calls "a strenuous day's sightseeing," and by all accounts it was thoroughly enjoyed.

GREAT BRITAIN.

At the half yearly general meeting of The India-Rubber, Gutta-Percha and Telegraph Works Co., Limited (London, June 18), the chairman reported an increase of sales, but it was not certain that the year would show proportionately larger profits. The company had made and were laying a new cable from New York to Colon, via Havana. He referred to the company's successful use of the new tire making machine [described in THE INDIA RUBBER WORLD, June 1—283]. An interim dividend of 2½ per cent. on the ordinary shares was declared.

The Sirdar Rubber Co., Limited (London), have received a large order for their pneumatic tires, both grooved, non-slipping and plain, for the Sultan of Johore, in the Malay peninsula, who is the owner of 15 motor cars, and whose tire expense bills have been reported to be very heavy.

The New Gutta-Percha Co., Limited, of London, are putting in plant for the manufacture of cables insulated with "Gentsch gutta," for which they hold the British patent rights. [See THE INDIA RUBBER WORLD, January 1, 1905—page 131.] A. E. Garbuth, hitherto with the cable department of I. Frankenburg & Sons, Limited (Salford), has resigned to become general manager of The New Gutta-Percha Co.

The Unity Rubber Co., Limited, operating the plant at Woodley, Cheshire, known formerly as the Hyde Rubber Works, have gone extensively into the manufacture of solid rubber tires. The controlling interest is held by J. Mandleberg & Co., Limited, of Pendleton, Manchester.

Colonel Richard K. Birley, managing director of Charles Macintosh & Co., Limited (Manchester), is on the board of the Beaufort Borneo Rubber Co., Limited, registered in London with £100,000 [=£486,650] capital, to plant rubber in British North Borneo.

The Cape Asbestos Co., Limited (London), manufacturers of asbestos insulating materials, report net profits for the past year of £6,270, as against £1,828 for the year preceding, and this reduces the outstanding credit balance of £17,571 to £11,301.

Claudius Ash, Sons & Co. (1905), Limited, the extensive manufacturers of dental goods [see THE INDIA RUBBER WORLD, July 1, 1907—page 321], will have a predominating interest in the new Platinum Corporation, Limited, capitalized at £300,000, formed to acquire valuable platinum and gold concessions in Russia, comprising 15,000 acres.

The profit of the Craigpark Electric Cable Co., Limited (Glasgow), for the past business year amount to £6,443, as compared with £4,223, the three previous years' average. The usual dividend (6 per cent.) on the preferred shares was paid and 6 per cent. on the ordinary shares. The last previous ordinary dividend, 5 per cent., was paid in 1903.

GERMANY.

ASBEST- u. Gummiwerke Alfred Calmon, A.-G., at Hamburg, report for the last business year gross profits of 996,095 marks, as against 739,428 marks for the year before. The net profit was 421,579 marks, of which 360,000 marks go to pay 6 per cent. on the capital of 6,000,000 marks [=£1,428,000].

The German rubber manufacturers have scored a victory in respect of the import duties on benzine. They have had to pay a duty of 3 shillings per hundred weight, while benzine imported from Austria, Hungary, or Roumania, for motor purposes, was charged 1 shilling for only light benzine, and the heavy sorts, which the rubber goods maker finds the most useful, could be imported duty free for motoring purposes. The result of agitation has been not only that the limit of specific gravity not to be exceeded for duty free benzine has been raised from 0.77 to 0.805, but the duty for such benzinés is removed for the rubber industry as well as for motor folk.

Exports of india-rubber goods from Leipzig to the United States during the calendar year 1906 amounted in value to \$28,472, and in 1905 to \$16,447, according to the United States consul at Leipzig.

The Mannheimer Gummi-, Guttapercha- und Asbest-Fabrik A.-G. have bought land for 36,000 marks at Kirchbein, near Heidelberg, with a view possibly to the removal of their works to that place.

Otto Oloff, lately with the Mannheimer Gummi-, Guttapercha- und Asbest-Fabrik A.-G., has been made general director of the Frankfurter Gummiwaren-Fabrik Carl Stöckicht A.-G., at Frankfurt o/M.

AUSTRIA-HUNGARY.

THE Ungarische Gummiwaren-Fabriks Aktiengesellschaft, at Budapest, capitalized at 1,600,000 kroner [=£324,800], paid a dividend of 11 per cent., against 10 per cent. for the preceding year. The capital is to be increased to 2,500,000 kroner [=£507,500].

At the eighteenth annual meeting of shareholders of the Oesterreichisch-Amerikanische Gummifabriks Aktiengesellschaft, at Vienna, under the presidency of Hugo Markus, it was voted to increase the capital to 4,000,000 kroner [=£812,000] by the issue, at par, of 2,500 shares of 400 kroner each.

BELGIUM.

CAPTAIN VITTA, the director in Africa of the Cie. Industrielle et de Transports au Stanley Pool "Citas," operating in rubber on the Congo, has been visiting the headquarters of the company at Brussels, where recently there was conferred upon him the decoration of chevalier of the royal Order of the Lion. At the same time the direction of the company "Citas" tendered a banquet to Captain Vitta, at which he was complimented upon his work in Africa and presented with a jeweled memento of the occasion. Captain Vitta has spent 14 years in the Congo region, having served two terms in the service of the Free State and six years in that of "Citas." The director of this company in Belgium is Mons. Edmond Hinck, who also is a director in the American Congo Co.

Société Belge pour la Fabrication des Câbles et fils Electriques, S. A., of Brussels, with works at Buysinghen, have increased their capital to 1,000,000 francs [=£193,000].

SWEDEN.

IMPORTS of crude rubber in 1905 amount to 828,921 kilograms [=1,823,626 pounds]. Value of imports of rubber goods, 3,286,516 kroner [=£88,478.63]; value of rubber goods exported, mostly footwear, 5,160,543 kroner [=£138,302.55].

THE RUBBER TRADE AT AKRON.

BY A RESIDENT CORRESPONDENT.

THE Firestone Tire and Rubber Co. are erecting an additional building, four stories, 90 X 44 feet. Their tire manufacture has increased to such proportions that their present buildings are no longer adequate.

Twenty-three of the Firestone company's traveling salesmen met here on July 9, for their annual convention. The officials of the company entertained their men handsomely. Late in the afternoon the entire party journeyed to Cleveland, where they witnessed the departure of the Glidden automobile tour entries the next morning. During their gathering it was ascertained that the company's sales have been greater during the past year than in their whole history before.

As the Glidden tourists passed the home of Mr. H. S. Firestone, president of the Firestone Tire and Rubber Co., near Columbiana, they were treated to baskets of lunch, served from a large tent erected on the lawn. The homestead was the birthplace of Mr. Firestone and his brother, the company's sales manager.

Frank H. Burmester has severed his connection with the Burmester Rubber Co., of Boston, to accept the position of New England traveling representative for the Firestone company.

The four story office building which is being erected at the corner of South Main and Rubber streets for The B. F. Goodrich Co. is nearing completion. The structure will be one of the best finished office buildings in Akron, and will probably cost \$100,000. The five story factory building on the opposite corner is also well under way. This structure will be used for the manufacture of molded rubber goods. With these new buildings the Goodrich company will have a floor area of 17 acres.

Progress upon the erection of the plant of the newly incorporated Star Rubber Co. has been rapid, and it is expected that the main building, which will be three stories in height and 100 X 50 feet, will be completed within a few weeks. Officials of the company state that they will be ready to begin operations by the middle of September.

The Diamond Rubber Co. are planning to pay more attention to their foreign trade. Mr. Charles T. Wilson has sailed for London for the purpose of pushing the Diamond's sales in Europe. After studying the English field, Mr. Wilson intends to give his attention to France and Germany. He is an experienced tire man, having been connected with the Diamond company for years, during part of which time he has been abroad.

The Akron Pneumatic Tire and Protector Co., formed to manufacture the new puncture proof automobile tire invented by Lemon Greenwald, has been incorporated, and is already engaged in manufacturing the tire in a building on West Buchtel avenue. Many orders have been secured, and the company has bright prospects. The incorporators are W. J. Neil, J. S. McClurg, Frank R. Talbot, W. R. Talbot, and Lemon Greenwald. Tire protectors and ordinary pneumatic tires are also being put out by the new concern. [See THE INDIA RUBBER WORLD, July 1, 1907—page 313.]

The Buckeye Rubber Co. will erect a large building, 224 X 40 feet, as an addition to their present plant.

One of the most enjoyable events of the year in local rubber circles, was the picnic of the Diamond Rubber Co.'s employes, held at Silver Lake on Saturday, July 13. The gate records showed that 8,000 people were in attendance, and nearly 5,000 of these had their expenses, including transportation to and from the lake, admission to the dancing pavilion, boating, and so on, borne by the company.

Mr. Charles C. Goodrich, whose intended removal to the East has been mentioned, will in consequence resign the position of junior warden of the Church of Our Saviour at Akron. At a

recent meeting of the church vestry Mr. Goodrich was presented with a beautiful loving cup.

Portions of several streets in Akron are to be vacated, by action of the city council, in compliance with the requests of manufacturing concerns desirous of enlarging their premises. Rubber street will be vacated on the request of the B. F. Goodrich Co., who own all the adjacent property, and Third avenue will be vacated at the instance of the Buckeye Rubber Co., who agree to open another street in that locality.

THE RUBBER TRADE AT SAN FRANCISCO.

BY A RESIDENT CORRESPONDENT.

DESPITE the more or less unsettled condition of San Francisco affairs, in many directions, the outlook for the rubber supply houses appears promising, and all are doing a good business.

Mr. E. H. Parish, of the Gorham Rubber Co., will start for the Orient about August 8. They report business very good, especially in the automobile line, and better this year than for some time past. Mr. W. J. Gorham is down in Los Angeles in charge of the branch store, while Mr. E. Helm is gone East.

The Phoenix Rubber Co., at Nos. 115-117 Beal street, report business exceedingly good, and have also done well in the automobile trade, and up to the present time have all they can do.

Mr. H. W. Keffer, formerly of the Gorham Rubber Co., is now city salesman for the Sterling Rubber Co., handling the druggists' sundries line exclusively.

Mr. Squires, formerly of Barton, Squires & Byrne, is now in the rubber business for himself, having secured a number of eastern lines to represent on the Pacific Coast. He has recently made a trip along the southern coast of California and succeeded in landing some good orders.

The Goodyear Rubber Co. continue to report a steadily increasing business. Mr. R. H. Pease, the president, is preparing to leave for Portland to look out for the company's branch store, as well as have a pleasant change for his family during the summer.

The George P. Moore Co., at No. 721 Golden Gate avenue, are doing a good business in automobile supplies and are constantly receiving orders from the country, especially from places ordinarily considered out of the way, such as Idaho and Montana, where one would hardly expect to find many automobiles, and the greatly increased demand for supplies shows the great increase in that industry and the consequent increase in the rubber business.

The Fisk Rubber Co., at No. 1036 Golden Gate avenue, report an active business, and are pleased with the bright outlook for the summer season. The car which won the fifty mile race at Delmonte was equipped with Fisk tires.

The California Antioak Tire and Motor Co. has been incorporated at Los Angeles.

The San Juan Rubber Co., with headquarters at Los Angeles, have been incorporated under the laws of California, to plant rubber in Costa Rica.

Representatives of the Builders' Exchange, Real Estate Board, and Building Trades Council have adopted a resolution favoring a wage schedule in the building trades, to be adjusted by a joint committee, signed for three years, and published broadcast. There are some indications that such a course may be carried out. The signing of such an agreement as that indicated by the resolution, which would assure three years of certainty to investors and contractors and reasonable wages, would give a great impulse to construction. At present there is no such assurance. If an agreement is reached the element of uncertainty will be obliterated, money will be easier, owners will be encouraged to improve their property, work will be plentiful, and general prosperity will ensue.

News of the American Rubber Trade.

UNITED STATES RUBBER CO.—DIVIDENDS.

THE directors of the United States Rubber Co., on June 27, declared the regular quarterly dividend of 2 per cent. on the First preferred stock and the regular quarterly dividend of 1¾ per cent. on the Second preferred stock from the net earnings for the fiscal year beginning April 1, 1907, payable on July 31 to shareholders of record July 15. The net earnings for the year (June partially estimated) are stated to have been approximately \$1,040,667.42, which includes dividends amounting to \$138,906.25 received upon stock of the Rubber Goods Manufacturing Co. Net earnings at the same time last year were \$972,000, including \$116,277.53 in Rubber Goods dividends.

BOSTON WOVEN HOSE AND RUBBER CO.—NEW BUILDINGS.

THE Boston Woven Hose and Rubber Co. have been building up their plant at Cambridge for about 25 years, until every square foot of available space has been covered. Several months ago they purchased the property of the Chelmsford Foundry Co., about 150,000 square feet, adjoining their original land on the north, since which time they have purchased additional land and are proceeding to erect several new buildings. Ground has been broken for a four-story building of reinforced concrete, to be used for the manufacture of various kinds of hose, the equipment for which will be entirely new. During this month work will begin on a four-story building nearly 600 feet long for the receiving and shipping departments and storage of raw and finished materials. To enable the company to produce sufficient quantities of "Boston" and "Eclipse" spray nozzles and other hose fittings, a new brass foundry, said to be one of the largest in the country, is now under construction.

Additions will also be made at the company's reclaiming plant at Plymouth. Plans are drawn for a three story building there, and additional engines and boilers will be installed. A portrait of the company's new manager appears on this page.

BACK TO THE OLD QUARTERS.

WILLIAM H. SCHEEL, who has returned to his former location, No. 158 Maiden lane, New York—the premises occupied before a recent fire—announces that his facilities now will permit of the handling of a much larger line of goods for the rubber trade, such as substitutes, antimonies, colors and fillers. The business of William H. Scheel is now in the nineteenth year.

THERAUD BROTHERS EMBARRASSED.

THERAUD BROTHERS, commission merchants at No. 87 Broad street, who claim the honor of being the oldest mercantile house in New York, made an assignment for the benefit of creditors on July 17 to Ernest G. Pfister. This action was prompted by the reported failure of a correspondent in Yucatan. The liabilities are roughly estimated at \$750,000 and the assets at \$1,000,000. The firm hope to be able soon to resume. They were importers of Mexican and Central American products, including india-rubber, and exporters of American manufactures.

RUBBER FOOTWEAR TRADE IN ST. LOUIS.

THE Hamilton, Brown Shoe Co. (St. Louis) continue to break all records in the matter of their shipments. From December 12, 1906, to June 1, 1907, the total volume amounted to \$6,103,630.05—an increase of \$1,002,297.21 over the corresponding dates one year previous. Mr. W. D. Collins, manager of their rubber footwear department, advises THE INDIA RUBBER WORLD that their rubber business, as compared with last year, shows an increase very near to 25 per cent. The firm are exclusive Western agents for the "Lycoming" and "Keystone" brands, of which they carry such full stocks that they are able to fill every order complete on the same day it is received. This they did throughout 1906 and the same rule has been followed thus far in the current year. The Hamilton, Brown Shoe Co. are having a particularly good trade in some lines of rubber made specially to their order for the field which they cover.



GEORGE E. HALL.

[General Manager Boston Woven Hose and Rubber Co. See THE INDIA RUBBER WORLD, July 1, 1907—page 325.]

MOTZ CLINCHER TIRE AND RUBBER.

THE annual meeting of Motz Clincher Tire and Rubber Co. (Akron, Ohio) was held on July 5. The directors chosen are Charles Motz, Gus Burkhardt, Nicholas Seil, Dr. H. J. Saunders, William Wolf, N. C. Stone and Paul E. Bertsch. C. Motz was re-elected president, G. Burkhardt, vice-president and N. Seil secretary and treasurer. The company have added to their products a new non-skidding cushion tire, and their prospects for the year are most encouraging, not only at home but in connection with the foreign trade. Motz tires have met a good sale in Europe.

NEW LOCATION FOR CAPEN, OF ST. LOUIS.

CAPEN Belting and Rubber Co. (St. Louis) have removed to new and much larger quarters, at the southwest corner of Main and Chestnut streets. They have one of the best equipped stores in the lines of leather belting, mechanical rubber goods and mill supplies in their section. The company were incorporated in 1900 and carry the St. Louis accounts of some leading rubber manufacturing concerns. Charles P. Capen is manager of the business.

FEDERAL RUBBER CO.

THE Federal Rubber Co. (Cudahy, Wisconsin) have filed notice of an increase of their capital stock from \$100,000 to \$620,000 for the purpose of enlarging their plant. The officers of the company are: John H. Frank, president; George P. Mayer, vice-president; W. H. Upmeyer, treasurer; William Brumder, secretary. William A. Koeneman, the inventor of a recently patented rubber reclaiming process to be used by the company, has been elected manager.

ANDERSON PNEUMATIC CUSHION HEEL.

BOSTON Woven Hose and Rubber Co. (Boston) have entered into an arrangement with Mr. W. G. Anderson, the patentee of the Anderson Improved Pneumatic Cushion Rubber Heel [illustrated and described in THE INDIA RUBBER WORLD, July 1, 1907—page 318], whereby they will undertake the sole manufacture and sale of this popular article.

NEW CONSTRUCTION.

THE Bridgeport Elastic Fabric Co., Inc. (Bridgeport, Connecticut) have added to their plant a brick one story building, 100 X 55 feet, to be used for weaving. They are installing machinery which will add 25 per cent. to their production, and the additional room will enable them eventually to increase 50 per cent. The company were incorporated in June, 1902, and make narrow elastic goods, mostly for hose supporters and garters.

The West Point Manufacturing Co., of West Point, Georgia, are erecting a new mill between West Point and Langdale, Ga., in addition to their already extensive mills, which will be the largest plant in the world devoted to the manufacture of cotton duck.

Pará Rubber Works, a new company, with temporary offices at No. 97 Warren street, New York, plan the erection of a factory in the western part of the State for rubber insulated copper wire. Francis Granger, well known in the electrical field, is prominent in the company.

LEO F. NADEAU, CONSUL.

THE president of Guatemala has created a consulate for that republic at Providence, Rhode Island, and appointed as consul Mr. Leo F. Nadeau. Mr. Nadeau has spent considerable time in Guatemala, where he is interested in planting and grazing, being secretary and treasurer of La Nueva Providencia Rubber Co., a corporation which he was instrumental in forming some years ago. Mr. Nadeau is engaged also in the insurance business at Providence, and in the importation of Central American products. He is a Brown University man, a member of the Providence Board of Trade and active in Masonic circles. He is, altogether, an active business man. A portrait of him appears on this page.

OUTINGS OF RUBBER PEOPLE.

THE annual picnic of employés of The Diamond Rubber Co. (Akron, Ohio), under the auspices of the Diamond Rubber Workers' Relief Association and the Diamond Rubber Co.'s Band Association, held at Silver Lake, near Akron, on July 13, was largely attended and thoroughly enjoyed by all present. There were baseball and other sports and dancing.

The annual baseball game between nines from the married and the unmarried members of the staff of the United States Rubber Co.'s New York offices, scheduled this year for June 29 at New Dorp, Staten Island, had to be postponed on account of the rain and a new date for the game has not been announced.

The salesmen of the Firestone Tire and Rubber Co. held their annual convention at Akron during the week beginning July 8. On the evening of the day named they attended a reception and dinner at the Portage Country Club, when, being 23 in number, they organized themselves into a "Skidoo Club."

TIRE COMPANY NOTES.

THE Auto Tire and Supply Co., No. 134 Washington street, Providence, Rhode Island, have been organized for the sale of motor supplies generally. They are now carrying in stock the Continental tires and several leading American makes.

The Healy Leather Tire Co., of No. 90 Gold street and No. 1906 Broadway, New York, whose leather tires have been described in these pages, are selling a line of specially made inner tubes of red rubber having a peculiar composition which gives them extreme toughness.

The Fisk Rubber Co. have appointed as manager of their branch at Cleveland, Ohio, Mr. J. B. Kavanaugh, who formerly was connected with the Hartford Rubber Works Co. Mr. Kavanaugh has been succeeded as the Hartford company's manager at Cleveland by Mr. P. H. Goodall.

W. D. Newerf, Pacific coast representative of the Good-year Tire and Rubber Co. (Akron, Ohio), with headquarters at Los Angeles, California, has established a branch house in San Francisco, on Golden Gate avenue, in charge of A. C. Leonard.

Trenton Rubber Manufacturing Co. (Trenton, New Jersey) issue an attractive booklet relating to their "Trenton" automobile tire tubes, including a price list.

It is announced that the Ajax-Grieb Rubber Co., of New York and Trenton, have practically decided to change the location of their factory, with a view to securing premises that will permit of greater expansion. Propositions from two or three towns regarding the location of the factory have recently been under consideration.

The Dow Tire Co. (No. 104 West Forty-second street, New York) have secured premises at Bush terminal, in Brooklyn, and begun the manufacture of inner tubes.

NEW INCORPORATIONS.

NEW JERSEY Antioak Co., June 24, 1907, under the laws of New Jersey; capital authorized, \$25,000. Incorporators: Arthur W. Snow, Albert R. Palmer and Charles C. Kern. Registered offices: Nos. 9-15 Clinton street, Newark, N. J.

New York Antioak Tire Co., June 18, 1907, under New York laws; capital, \$25,000. Incorporators: H. W. Morehouse, Brooklyn; A. R. Palmer and C. C. Kern, New York city.

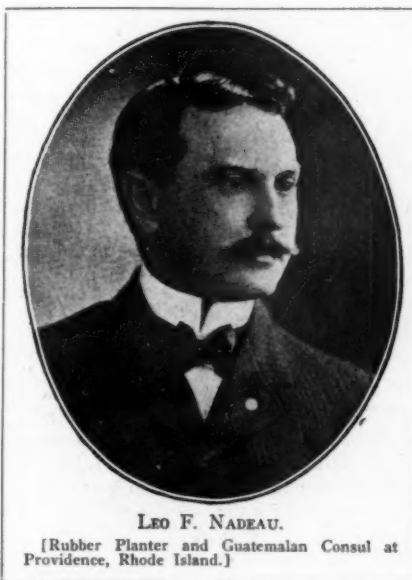
Interstate Rubber Co., Inc., May 15, 1907, under the laws of Washington state; to deal in mechanical rubber goods, leather belting, etc., and to make valves, gaskets and the like; capital, \$20,000. Location: No. 322 First avenue, Spokane, Wash. Richard Church, president and manager; George W. Orchard, secretary and treasurer; S. J. Wigle, vice-president. Will C. Church, of Boston, is expected to reach Spokane about August 15 to take an active interest.

Dunn-Locke Vacuum Cleaning Co., June 18, 1907, under New York laws; capital, \$1,000,000. Directors: Chase Mellen, Garden City, L. I.; Perry H. Blodgett and H. M. Ward, New York city.

Bay State Compressed Air Vacuum Cleaning Co., July 15, 1907, under Massachusetts laws; capital, \$100,000. E. F. Coburn, Lawrence, Mass., president; G. Peck, Boston, treasurer.

Pocket Ice Apron Co., July 5, 1907, under Rhode Island laws, to make and sell rubber ice aprons; capital, \$5,000. Incorporators: Isaac Crocker, Albert H. Bloss and George I. Crocker. Office: Providence, R. I.

Passaic Cotton Mills, February 5, 1907, under the laws of New Jersey; to make automobile tire fabrics; capital author-



LEO F. NADEAU.

[Rubber Planter and Guatemalan Consul at Providence, Rhode Island.]

ized, \$100,000. Incorporators: Robert D. Benson, Henry Binns and John D. Sufferin, all of Passaic, N. J.

Howard Ramie Fiber Manufacturing Co., June 20, 1907, under the laws of New York; to manufacture vegetable fibers into fabrics; capital, \$1,000,000. Incorporators: H. H. Howard, H. Miller-Howard and A. Hillebrandt, all of New York city.

The M. W. Dunton Co. (Providence, R. I.) have been incorporated under the Rhode Island laws, with \$50,000 capital, to succeed to the business of M. W. Dunton & Co., manufacturers of uncoated cotton armature tapes and other insulating material.

The Ferguson Waterproof Co. filed articles of incorporation under the laws of Missouri, April 30, 1907, with \$200,000 capital, in equal amounts of preferred and common stock. The object is stated to be the manufacture of waterproof garments and other waterproof goods, at Paducah, Kentucky. The principal shareholders are Forrest Ferguson, a St. Louis dry goods merchant (president of the company), and David M. Flournoy, a broker, of Paducah. Mr. Ferguson informs *THE INDIA RUBBER WORLD* that the company will not use rubber.

The Priest Tire Co., June 8, 1907, under the Wisconsin laws; capital authorized, \$100,000. Incorporators: George Beyer, Frank Fisher, Jr., Augustus F. Priest and W. P. Cook, all of Oconto, Wis. The object is to exploit a tire patented by Mr. Priest, who becomes secretary of the company. The present address of the company is No. 315 Everett building, Akron, Ohio, in which city the tire probably will be manufactured.

Hazen-Brown Co., Inc., May 29, 1907, under the Massachusetts laws; to make rubber and other cements; capital, \$30,000. George D. Hazen, president; Louis Brown, vice-president; Max Brown, treasurer. Office: Brockton, Mass. The company report: "Our business is manufacturing and marketing to the shoe industry our product called 'Hazenite,' which is intended to be used as a folding cement for oily leather."

MOTOR CABS FOR NEW YORK.

THE New York Motor Cab Co., Limited, has been formed in London, with £303,000 [= \$1,474,549.50] capital, to supply in New York a service of 300 Darracq motor cars, of the 14-16 H.P. four cylinder landaulette type, for four or five passengers, and fitted with taximeters. The rate of fares mentioned is 30 cents for the first half mile and 10 cents for each additional quarter mile. The cost to the company of the cabs, Paris delivery, is to be £352 [= \$1,713] each. The operating cost estimates include \$2 per cab per day for tires. The average receipts per day are figured at \$24 per cab, the average gross profit \$19.20, and the total yearly net profit \$953,400. The cabs are to be practically the same as those now used in London and Paris. W. K. Vanderbilt, Jr., is reported in a London paper to be financially interested.

GENERAL ELECTRIC CO.'S REPORT.

THE fifteenth annual report of the General Electric Co. (Schenectady, New York), for the year ending January 31, 1907, shows: Goods billed to customers during the year, \$60,071,883; orders received, \$60,483,659; profits (after writing off \$2,834,123.80 for depreciation of plants), \$8,427,842.68; dividends paid, \$4,344,342; surplus at the end of the year, \$15,110,796.77. The capital authorized is \$80,000,000, and the amount issued \$65,134,130. The land area of the three manufacturing plants is about 445 acres; the number of employes 28,000. The patent account, figured as an asset of \$4,000,000 in 1899, has been reduced gradually to \$1. The report mentions that electric motors in industrial establishments continue to increase in numbers and in variety of applications. The company have in hand contracts for motors of special design, for driving steel rolling mills, of an average capacity of 10,000 H. P. [Last year's report in *THE INDIA RUBBER WORLD*, July 1, 1906—page 335.]

THE SUMMER SHUTDOWN.

THE two factories of the Woonsocket Rubber Co. closed on July 26 and will resume work on August 6. This date was chosen for the annual shutdown in order to allow the employes to celebrate "Old Home Week" at Providence.

The Hood Rubber Co. resumed work at their factory on the Monday following July 4, after having been shut down during the intervening days.

The Republic Rubber Co. (Youngstown, Ohio), after having closed their factories for a few days for repairs and the annual inventory, resumed work on July 5.

The factory of the National India Rubber Co. (Bristol, Rhode Island) resumed work on the Monday following July 4, after a shutdown of three days. The tennis shoe output lately has been doubled.

RUBBER SOLED LEATHER SHOE CO.

FAYETTE W. WHEELER, admitted to the bar at Boston in 1898, has been disbarred on account of transactions growing out of his connection with the Rubber Soled Leather Shoe Co., of South Framingham, Mass. This company, formed in 1897 and petitioned into bankruptcy in 1904, elected Wheeler as president and general manager in 1902. He is charged with having, by misrepresentations, induced a certain Mrs. Sturtevant, now deceased, to sign notes for the company, the facts concerning which have come to light fully only of late. The company was formed to make a shoe patented by George F. Butterfield.

DIVIDEND PAYMENTS.

DIVIDENDS on the shares of the following companies were payable on July 1:

Boston Belting Co., quarterly, \$2 per share.
Robins Conveying Belt Co., preferred, semi-annual, 3½ per cent.
American Chicle Co., preferred, quarterly, 1½ per cent.
Celluloid Co., quarterly, 1½ per cent.

The directors of the United Shoe Machinery Corporation [see *THE INDIA RUBBER WORLD*, July 1, 1907—page 316] declared a dividend of 1½ per cent. on the preferred shares and a dividend of 2 per cent. on the common shares, both payable July 15. All the shares are of the par value of \$25. This was in addition to a stock dividend amounting to 25 per cent. on the common stock authorized at the annual meeting in June.

TRIAL OF WALTER K. FREEMAN.

THE conviction of Walter K. Freeman on a charge of larceny made by Parke, Davis & Co., manufacturing chemists, in a New York court, was reported in *THE INDIA RUBBER WORLD* of April 1 last (page 225). He was sentenced to the State prison for three years, but made various motions for a new trial, on which a final hearing was not reached until July 22, when the sentence pronounced in April was confirmed. Freeman has succeeded in gaining another opportunity to move for a new trial, in a higher court, which motion will come up in September. Freeman has been confined in the Tombs prison in New York for more than a year, and is now held in \$10,000 bail.

ELECTRIC RUBBER MANUFACTURING CO.

THE sale of the plant of the Electric Rubber Manufacturing Co. (Rutherford, New Jersey), in bankruptcy, was reported in the last issue of this paper (page 321). The receivers have since notified the creditors that the Manhattan Storage Co. (New York) make certain claims against the company, in respect of tires alleged to have been bought under guarantee and found to be of poor quality, and the creditors of the rubber company were invited to appear on July 29, at the chancery court in Jersey City, when the receivers were to pray for the direction of the court as to the claims above mentioned. The Rutherford property sold for \$85,000, or in excess of the admitted claims.

OKONITE CO., LIMITED.

THIS company's annual return was filed in London on April 24. The whole capital (£120,000) has now been taken up, the final calls on a few shares having been made during the year. One-third of the capital is in ordinary shares and two-thirds in 6 per cent. preference shares. Mortgages and charges, £50,400, of which £33,000 are in the hands of trustees for the company.

NEW TIRE FABRIC COMPANY.

THE Passaic Cotton Mills filed articles of incorporation under the laws of New Jersey on February 5, 1907; capital, \$100,000. Incorporators: Robert D. Benson, Henry Binns and John D. Sufferin, all of Passaic, N. J. The company are now building a plant at Passaic, intended to be in operation by September 15, for the manufacture of Sea Island and Egyptian cotton fabrics, particularly for motor tires and fire hose. For some time past Catlin & Co., of the cotton duck trade in New York, have controlled a mill at Worcester, Massachusetts, operated as the Worcester Rubber Tire Duck Co. The plant not being large enough for the growth of this business, it was decided to build at Passaic, and after the new factory is completed the work at Worcester will be closed. The Passaic plant stands on a tract of 5 acres, on the Delaware, Lackawanna and Western railroad. R. P. M. Eagles is vice-president and L. R. Cowdrey secretary and treasurer.

THE FISK RUBBER CO.

THE Fisk Rubber Co. have taken possession of the new building erected for their New York branch, at No. 1725 Broadway. Its equipment comprises a very complete tire vulcanizing plant. Mr. J. W. Bowman, who recently resigned as New York manager of The Fisk Rubber Co., is organizing in Boston the J. W. Bowman Co., which will engage in the sale of automobiles.

ATLANTIC RUBBER SHOE CO.'S AFFAIRS.

THE application of John R. Hegeman for the appointment of a receiver for the Atlantic Rubber Shoe Co., a corporation of New Jersey, was denied in the Chancery Court at Newark on July 11. Mr. Hegeman is a director in the company and the owner of 750 shares of preferred and 2,500 shares of common stock. His application for the receivership was based upon his opposition to the resolution to go into liquidation adopted by two-thirds of the shareholders on May 8 last. He declared the company to be financially able to continue business. The vice chancellor decided that the ultimate question must await final hearing, and that the court "ought not to interfere to displace the board of directors or enjoin the corporation from the transaction of its necessary business or from accomplishing its dissolution." Mr. Hegeman is president of the Metropolitan Life Insurance Co., of New York, and the board is composed principally of persons of financial importance.

The Atlantic Rubber Shoe Co. was incorporated December 18, 1901, to exploit the Doughty patents for making rubber footwear by machinery. A factory was built at Cranston, Rhode Island, and operated from about May 1 to December 24, 1904. On November 2, 1906, the factory property was sold at auction for \$137,000, which amount is stated to be now in bank, chargeable with about \$12,000 in liabilities. The capital authorized by the charter was \$10,000,000, one-fourth being in preferred stock. On December 20, 1905, the total capital was written down to \$800,000, through the reduction of the par value of the preferred stock to \$20 and of the common to \$4 per share. The purchaser of the Cranston plant was announced to be William H. Perry, of Providence. The rubber machinery contained in it, it is understood, has been removed to factories of the United States Rubber Co., which corporation is currently reported to control the Atlantic Rubber Shoe Co. to-day.

MOTOR OMNIBUSES FOR FIFTH AVENUE.

THE Fifth Avenue Coach Co., owned by the New York Transportation Co., have acquired for use on Fifth avenue, New York, 15 De Dion-Bouton omnibus chassis, which have been fitted on

this side with doubled deck bodies of the London type, seating 34 passengers. These 'buses are fitted with single solid rubber tires on the front wheels and twin tires on the rear. For the purpose for trying out the various makes of American tires the business will be divided among different factories. The 'buses will be equipped with odometers and a careful record kept of the mileage of each tire, so that comparative statistics will be available as to the maintenance cost of the several makes. The company have planned to have the new 'buses in commission by this date.

TRADE NEWS NOTES.

THE wholesale shoe firm of George H. Reeder & Co., at Grand Rapids, Michigan, has become the Grand Rapids Shoe and Rubber Co., Inc. They are selling agents for the Hood Rubber Co., carrying a complete line of "Hood" and "Old Colony" rubbers and "Greyhound" tennis shoes, in addition to their regular line of leather goods.

Earle Brothers, brokers of crude india-rubber and gutta-percha, No. 66 Broad street, New York, announce the admission to their firm of Mr. Harry W. Laird and Mr. Russell W. Earle, as from June 1, 1907.

Alfred F. Moore, of Philadelphia, insulated wire manufacturer, reports that relations with H. E. Cobb, of Chicago, terminated on June 30, and that arrangements have not been concluded for further representation in that territory.

Quaker City Rubber Co., of Philadelphia, have removed their city offices from No. 409 to No. 629 Market street, with a view to obtaining more room.

A system of drying belting is being installed for The Rosendale-Reddaway Belting and Hose Co., Limited (Newark, New Jersey), by the B. F. Sturtevant Co., of Boston. The equipment consists of a large fan with steam heater, through which air is drawn, heated and forced through ducts to the desired points.

In answer to a correspondent inquiring as to which is "the better investment for a business man to hold for a year or more," United States Steel preferred or United States Rubber first preferred, the *Wall Street Journal* replies that there is little choice, as "the dividends on each seem well assured." Another tribute to the rubber company's issues for investment purposes came out recently when a waiter in a New York restaurant was found to hold 100 shares (worth over \$10,000) of its preferred stock.

An extensive business in golf balls and other golf goods is done in the Far East by A. G. Spalding & Brothers, Inc. (New York), the goods being made at the company's large factory in London.

The usual quarterly dividend of 2½ per cent. on the shares of the Canadian General Electric Co. has been declared.

A new firm in the waste rubber trade in Boston is Beal & Broad, composed of Joseph Beal and Charles B. Broad, with a location at No. 453 Atlantic avenue, and also a warehouse in Chelsea.

J. H. Stedman & Co., Inc., waste rubber merchants, of Boston, have removed their office and warehouse to larger premises, at No. 555 Atlantic avenue.

The St. Louis Rubber Cement Co. (St. Louis) are now under the management of William O. Hadley, formerly of the Hadley Cement Co., of Lynn, Massachusetts.

Frank H. Mason, general manager of The B. F. Goodrich Co. (Akron, Ohio), has had plans prepared for what is designed to be one of the finest country residences in the vicinity of the lakes south of Akron.

One of the plants of the H. W. Johns-Manville Co., the asbestos manufacturers, in Brooklyn, New York, was damaged by fire on June 29, to the extent of \$50,000.

The Consumers' Rubber Co., a jobbing company of Cleveland, Ohio, have been registered under the laws of Illinois as a foreign corporation, authorized to do business in that state.

TRADE NEWS NOTES.

THE Western Wire Sales Co., of Chicago, have been made general Western agents of the Bay State Insulated Wire and Cable Co. (Hyde Park, Massachusetts), recently incorporated to manufacture regular lines of rubber and lead covered insulated wires and cables, and a specialty of railroad signal wire.

In the United States circuit court at New York an injunction has been issued, in favor of the L. E. Waterman Co., restraining all others from using the name "Waterman's Ideal Fountain Pen."

Washington I. Finch, some time with the National India Rubber Co. (Bristol, Rhode Island), has been appointed superintendent at the rubber factory of the Clifton Manufacturing Co., at Jamaica Plain, Boston.

The directors of the Waterbury Co. (of New Jersey), manufacturers of insulated wire, with offices at No. 69 South street, New York, have declared the regular quarterly dividend of 2 per cent. on the preferred stock and a quarterly dividend of 2½ per cent. on the common stock, both payable July 1.

ADDITIONAL AKRON ITEMS.

THE excessive heat of late has caused not little inconvenience in some of the rubber factories. It is stated that in one factory, employing about a hundred men in the tire vulcanizing department, it was necessary on one day lately to relieve every one of them from one at some time or other during the day, rendering it necessary to close the department.

Mr. Arthur H. Marks, vice-president of The Diamond Rubber Co., with his family, has been spending some time at Marblehead, Massachusetts, whence reports come of his having had a launch built.

Aluminum Flake, it is learned from genial Frank Reifsnider, of Akron, is now in regular use in 90 rubber factories, the sales at the present time amounting to about 2,300,000 pounds a year. As a smooth, inert, toughening ingredient in rubber compounding, it certainly has great value. It is as a heat resistant, however, that it seems to make its best record; that is why in tire treads, inner tubes, steam hose, packing, and the like it is so widely used.

A SON OF GOODYEAR HONORED.

PROFESSOR WILLIAM H. GOODYEAR, M.A., the only surviving son of Charles Goodyear, of rubber fame, has been engaged this summer on important work on the cathedral at Amiens, France. He has lately been elected honorary academician of the Royal Academy of Fine Arts of Venice, in view of [as the official notice to him states] "your many services to Italy and especially to Venice, through your highly important publications and industrious studies on our church of St. Mark." He had been elected already an honorary member of the Royal Academy of Milan, the Society of Architects of Rome, the Society of Architects of Great Britain, etc. Professor Goodyear is not an architect, but these honors have been recognitions of his discoveries in medieval architecture. His home is in Brooklyn, New York.

PERSONAL MENTION.

ON the eve of his departure for Europe as resident director in London of the United States Rubber Co., Mr. Eben H. Paine was tendered a dinner at the Hotel Astor, New York, by the selling agents of the company in this country. At the conclusion of the dinner Mr. Paine was presented by his entertainers with a memento of their regard in the shape of a handsome gold cigarette case, appropriately inscribed.

Colonel Samuel P. Colt, president of the United States Rubber Co., whose illness was mentioned in these notes last month, has been improving meanwhile, but his projected vacation trip to Europe has been postponed indefinitely.

Colonel Frank L. Locke, whose retirement from the post of general superintendent of the factories of the Boston Rubber Shoe Co. was referred to in the last INDIA RUBBER WORLD (page 317), took his leave of the office on the last day of June. Dele-

gations from various departments of the factory called upon him to express their regret at his retirement and their good wishes for his success in the new field which he has chosen. Colonel Locke is taking a vacation in Europe before assuming his new work as president of the Boston Young Men's Christian Union.

Mr. Gordon Waldron, interested in rubber planting in Nicaragua, after an absence for some time in Canada (his home) and the United States, has returned to Bluefields, near which his plantation is located.

Mr. Edward A. Kümmel, general manager of The Ocean Beach Fruit Lands Co., with an estate at Ocean Beach, province of Pinar del Rio, Cuba, during the month visited the home office, at Milwaukee, Wisconsin. He reports that about 485 *Castilloa* rubber plants survived the cyclone of several months ago and are thriving. The company will replace the loss of rubber by new plantings. The company reports good returns from tobacco and other farm products.

Mr. Edward R. Rice, manager of sales of the United States Rubber Co., started for Europe on July 17 for a vacation trip of a few weeks.

Mr. Rhodes Lockwood, of the Davidson Rubber Co. (Boston), intends sailing on August 8 for a three months' visit to Europe.

Mr. William M. Ivins, formerly president of the General Rubber Co., has been appointed by the Public Service Commission, created recently under the New York laws, as special counsel to investigate and report upon the merger between the leading transportation lines in the city, if such exists. It is regarded generally as a very important assignment.

UNITED STATES RUBBER CO.'S ISSUES.

TRANSACTIONS on the New York Stock Exchange for eight weeks, ending on the dates appearing in the table below:

COMMON STOCK.

Week	June 1	Sales	1920 shares	High	36¼	Low	35
Week	June 8	Sales	1325 shares	High	36½	Low	33¾
Week	June 15	Sales	3240 shares	High	37¼	Low	35
Week	June 22	Sales	370 shares	High	34½	Low	34½
Week	June 29	Sales	2200 shares	High	38	Low	36
Week	July 6	Sales	2750 shares	High	39½	Low	37
Week	July 13	Sales	1400 shares	High	37	Low	36½
Week	July 22	Sales	5450 shares	High	36½	Low	32½

For the year—High 59½, Feb. 16; Low 32¼, July 18.

FIRST PREFERRED STOCK.

Week	June 1	Sales	3202 shares	High	100½	Low	98½
Week	June 8	Sales	600 shares	High	100¼	Low	99
Week	June 15	Sales	1467 shares	High	100¾	Low	98½
Week	June 22	Sales	845 shares	High	99	Low	98
Week	June 29	Sales	3001 shares	High	100	Low	97¾
Week	July 6	Sales	1730 shares	High	100¾	Low	99
Week	July 13	Sales	2035 shares	High	101½	Low	100½
Week	July 20	Sales	1030 shares	High	100½	Low	98

For the year—High 109¾, Jan. 7; Low 97¾, June 24.

SECOND PREFERRED STOCK.

Week	June 1	Sales	1080 shares	High	69¾	Low	68
Week	June 8	Sales	200 shares	High	69½	Low	69
Week	June 15	Sales	1250 shares	High	69½	Low	68
Week	June 22	Sales	10 shares	High	68	Low	68
Week	June 29	Sales	510 shares	High	69	Low	66
Week	July 6	Sales	224 shares	High	70	Low	69
Week	July 13	Sales	210 shares	High	69½	Low	67
Week	July 27	Sales	100 shares	High	67¼	Low	67¼

For the year—High 78¾, Jan. 7; Low, 66, June 26.

WANTS AND INQUIRIES.

[419] PRICES are wanted on a first-class hose lining machine for vulcanizing cotton rubber lined hose.

[420] A reader wishes names of manufacturers of "Dureflex" packing.

[421] Information is desired as to who makes or sells rubber plaques used by feather dyers in shading feathers.

[422] Who makes oleum white?

TRACTION TREAD TIRE FIRM BANKRUPT.

JOHN D. PRINCE, of No. 34 East Thirty-second street, New York, who filed a petition in bankruptcy July 25, with liabilities of \$23,809 and no assets, was a partner in the Traction Tread Tire Co. (previously the R. & P. Traction Tread and Tube Co.), of No. 1695 Broadway, which ceased to do business in January, 1907. The petitioner's former partner, Howard G. Rodgers, of Cincinnati, is among the creditors.

THE REVERE EMPLOYEES' PICNIC.

THE annual picnic of the employees of the Revere Rubber Co. (Boston) was held on Saturday, July 20, at Centennial grove, in Essex. The party was on a special train of ten cars, and enjoyed dinner under the large pine trees, together with a program of sports that offered something for every taste. There was a baseball game, together with races, jumping, and other field sports. The committee consisted of A. N. Smith and John Egan.

AN ENGLISH TRADE MARK CASE.

ON March 2, 1906, F. Reddaway & Co., Limited, commenced an action against the Irwell and Eastern Rubber Co., Limited, both of Manchester, claiming an injunction against the sale of any machinery beltings by the latter under the brands "Lanco" or "Lanco Balata," or any other words which might suggest that the goods were the product of the plaintiff company. It was alleged that the plaintiffs had acquired a valuable trade reputation in the sale of machine beltings under the brand "Lancashire," which was habitually abbreviated by many in the trade, in ordering, as "Lancs," "Lanca," and the like, and that the name "Lanco," in use by the defendants, was likely to be confused

with the trade name in question. The defendants denied that their trade names were intended to be mistaken for "Lancashire" or were likely to be; that the name "Lancashire" was applied to hair belting, whereas the defendants' brands were affixed to balata belting alone—two products not likely to become confused in the trade. The action came up for trial July 10, 1906, and was dismissed, when the plaintiffs appealed. In the court of appeals recently the action was dismissed, with costs for the defendants.

THE THEORY OF "SHORT" SALES.

IN reply to a correspondent who asks "Is it against the rules of the New York Stock Exchange to go short, that is, to sell stocks the seller has not got?" the *New York Journal of Commerce* says:

"There is no rule of the New York Stock Exchange forbidding a member to sell stocks he does not yet own. Manufacturers frequently sell goods which they have not, and which are not in existence when the sale is made. Being confident of their ability to get the goods in time to make delivery under the sale, they bind themselves to do so. One who sells stocks that he does not own at the time of the sale is in a position somewhat similar. If he is willing to accept whatever risk may be involved the Exchange is willing that he should do so."

BILLIARD balls are among the latest products from Galalith, a material prepared in France and Germany from skimmed milk.

Review of the Crude Rubber Market.

THE tendency of the market has been upward since our last report, the month closing with an advance on practically all grades listed below. The advance on fine new Upriver is about 5 cents per pound. The rise in Pará sorts has tended to materially strengthen the position of Africans and Centrals, though these had not declined to the same extent as Pará. The condition of the market reflects an increased activity in buying, though the month has been without any particularly large transactions, this being a period of the year when a certain amount of dullness in the trade is to be expected.

There can now be given the exact arrivals at Pará (including caucho) during the crop year ended June 30—38,005 tons, against 34,490 last year and 33,060 the year before.

The Antwerp sale of July 18 resulted in an average advance of 20 centimes per kilogram [= 1¼ cents per pound] over the prices realized in June.

Following is a statement of the prices of Pará grades, one year ago, one month ago, and July 30—this date:

PARÁ.	Aug. 1, '06.	July 1, '07.	July 30.
Islands, fine, new.....	118 @ 119	104 @ 105	107 @ 108
Islands, fine, old.....	none here	none here	none here
Upriver, fine, new.....	123 @ 124	110 @ 111	115 @ 116
Upriver, fine, old.....	124 @ 125	112 @ 113	117 @ 118
Islands, coarse, new.....	64½ @ 65	61 @ 62	62 @ 63
Islands, coarse, old.....	none here	none here	none here
Upriver, coarse, new....	90 @ 91	87 @ 88	90 @ 91
Upriver, coarse, old.....	none here	none here	none here
Caucho (Peruvian) sheet.	72 @ 73	70 @ 71	71 @ 72
Caucho (Peruvian) ball..	86 @ 87	82 @ 83	90 @ 91
Ceylon, fine, sheet.....	148 @ 149	127 @ 128	133 @ 134

AFRICAN.

Sierra Leone, 1st quality	99 @ 100	Lopori ball, prime..	105 @ 106
Massai, red.....	99 @ 100	Lopori strip, prime..	99 @ 100
Benguella	73 @ 73½	Madagascar, pinky..	83 @ 84
Accra flake.....	18 @ 19	Ikelemba	none here
Cameroon ball.....	74 @ 75	Soudan niggers....	85 @ 86

CENTRALS.

Esmeralda, sausage. 87 @	88	Mexican, scrap....	84 @ 85
Guayaquil, strip....	71 @ 72	Mexican, slab.....	64 @ 65
Nicaragua, scrap....	84 @ 85	Mangabeira, sheet..	50 @ 60
Panama, slab.....	64 @ 65	Guayule	45 @ 48

EAST INDIAN.

Assam	95 @ 96	Borneo	37 @ 38
Late Pará cables quote:			
Per Kilo.		Per Kilo.	
Islands, fine.....	5\$350	Upriver, fine.....	6\$050
Islands, coarse.....	2\$950	Upriver, coarse.....	4\$650
		Exchange	15 3-16d.
Latest Manãos advices:			
Upriver, fine.....	6\$350	Upriver, coarse.....	4\$250
		Exchange	15 3-16d.

Statistics of Para Rubber (Excluding Caucho).

	NEW YORK.		Total 1906.	Total 1905.
	Fine and Medium.	Coarse.		
Stocks, May 31.....Tons	304	313 =	369	287
Arrivals, June.....	413	313 =	726	538
				490
Aggregating	717	378 =	1095	825
Deliveries, June.....	486	306 =	792	634
				474
Stocks, June 30.....	231	72 =	303	191
				594

Rubber Scrap Prices.

New York quotations—prices paid by consumers for carload lots, per pound—show practically no change:

Old rubber boots and shoes—domestic.....	11½ @ 12
Old rubber boots and shoes—foreign.....	10¾ @ 11
Pneumatic bicycle tires.....	7½ @ 7¾
Automobile tires	9½ @ 10
Solid rubber wagon and carriage tires.....	10 @ 10¼
White trimmed rubber.....	12½ @ 12¾
Heavy black rubber.....	5¼ @ 6
Air brake hose.....	4¾ @ 5
Fire and large hose.....	3¾ @ 3¾
Garden hose	2½ @ 2¾
Matting	1½ @ 1¾

	PARA.			ENGLAND.		
	1907.	1906.	1905.	1907.	1906.	1905.
Stocks, May 31...Tons	605	90	365	1060	1060	370
Arrivals, June.....	1070	1485	985	565	345	760
Aggregating	1675	1575	1350	1625	1405	1130
Deliveries, May.....	1505	1545	1190	675	500	645
Stocks, June 30.....	170	30	160	950	905	485
World's visible supply, June 30..Tons	2,223	2,150	1,790			
Pará receipts, July 1 to June 30.....	31,530	29,069	27,311			
Pará receipts, Caucho, same dates....	6,340	5,620	5,474			
Afloat Pará to United States, June 30.	240	659	96			
Afloat Pará to Europe, June 30.....	560	365	455			

Havre Rubber Arrivals.**FROM FRENCH AFRICA.**

April 16.—By the <i>Europe</i>	46,451 kilos.
May 17.—By the <i>Maranhao</i>	52,347 "
June 15.—By the <i>Europe</i>	13,429 "
July 16.—By the <i>Paraguay</i>	45,298 "

Plantation Rubber from the Far East.**CEYLON WEEKLY EXPORTS.**

Week ending May 20—19,827 pounds; week ending May 27—14,999 pounds; week ending June 3—5,657 pounds; week ending June 10—11,132 pounds; week ending June 17—15,198 pounds. Previously reported, 234,865; total since January 1—288,178 pounds. Total to June 10, deducting rubber not the produce of Ceylon, 169,008 pounds.

SHIPMENTS FROM THE STRAITS—JAN. 1 TO MAY 31.

	Pounds.		Pounds.
Great Britain.....	465,600	Australia	12,534
Europe	41,134	Ceylon	61,467
United States.....	400		
Japan	22,261	Total	603,396
[From Singapore, 546,435; from Penang, 56,961.]			

AT THE AUCTIONS.

LONDON, June 21.—Sales of 283 packages—about 17 tons—at an average of 4s. 11¼d. [= \$1.21¾]; average for plantation one year ago, 5s. 3¼d. [= \$1.28¾]. Prices generally higher than a fortnight ago by 1d. A fine parcel of Lanadron estate block (54 packages) sold at 5s. 5d. [= \$1.31¾]. The highest paid was 5s. 7½d. [= \$1.36¾] for Ceará biscuits from Rangbodde estate, Ceylon.

LONDON, July 5.—Prices again showed an advance, though the greater part of the offerings (about 20¼ tons) did not find buyers. Highest paid 5s. 7½d. [= \$1.36¾] for fine pale worm, from Gikiyanakande estate, Ceylon. Pale sheet and Ceará biscuits sold up to 5s. 6¼d. [= \$1.34¾].

ANTWERP, June 18.—Eleven lots of Straits plantation, of dif-

ferent grades, amounting to 5,657 kilograms, found buyers at 10.72½ francs to 15.72½ francs. The latter price equals \$1.38 per pound.

Lisbon Rubber Arrivals.

[From July 1 to June 30; reported by Martin Weinstein & Co., Lisbon; weights in tons.]

Sorts.	1906-07.	1905-06.	1904-05.	1903-04.
Benguella	1,600	1,547	1,885	1,818
Loanda	687	570	704	909
Thimbles	101	111	177	143
Other sorts	62	74	51	66
Total	2,540	2,302	2,817	2,936

Rubber Receipts at Manaus.

DURING June and the twelve months of the crop season for three years:

	1907.	JUNE.	1906.	1905.	1906-07.	1905-06.	1904-05.
Rio Purus=Acre	102	249	123	8,357	6,970	6,243	6,243
Rio Madeira	194	148	106	3,514	2,972	2,972	2,972
Rio Juruá	65	245	33	4,894	3,988	3,944	3,944
Rio Javary-Iquitos	126	21	26	2,978	2,866	2,618	2,618
Rio Solimões	7	16	21	933	1,056	993	993
Rio Negro	17	35	31	632	702	787	787
Total	511	714	340	21,308	18,554	17,473	17,473
Caucho	330	482	327	5,467	5,099	4,613	4,613
Total	944	11,96	667	26,775	23,653	21,086	21,086

IMPORTS FROM PARA AT NEW YORK.

[The Figures Indicate Weight in Pounds.]

JUNE 24.—By the steamer <i>Madeirense</i> , from Manáos and Pará:	IMPORTERS.	Fine.	Medium.	Coarse.	Caucho.	Total.
General Rubber Co.....	35,900	12,700	48,600	34,500=		131,700
New York Commercial Co.	20,000	6,500	27,900	3,300=		57,700
A. T. Morse & Co.....	10,800	1,000	40,300	3,700=		55,800
Hagemeyer & Brunn	13,500	400	27,700			41,600
Poel & Arnold	800	6,100	9,600	15,200=		31,100
Edmund Reeks & Co.....	6,100	3,300	19,800			29,100
Neale & Co.....		300	1,300	700=		2,300
C. P. dos Santos.....	11,100	6,800	32,000	1,300=		51,200
Total	97,600	37,000	207,200	58,700=		400,500

JULY 5.—By the steamer *Basil*, from Manáos and Pará:

General Rubber Co.....	106,600	35,100	67,600	47,500=		256,800
Poel & Arnold	22,200	9,300	50,300	7,600=		89,400
New York Commercial Co.	38,800	23,000	20,900	2,800=		85,500
Hagemeyer & Brunn	30,700	2,500	23,100			56,300
Edmund Reeks & Co.....	18,900	1,800	25,100			45,800
A. T. Morse & Co.....	13,000	1,700	5,100	3,500=		23,300
Neale & Co.....		1,100	5,900			7,000
G. Amsinck & Co.....	1,800	600	3,000			5,400
Total	232,000	75,100	201,000	61,400=		569,500

JULY 15.—By the steamer *Cearense*, from Manáos and Pará:

General Rubber Co.....	23,900	6,100	35,200	35,100=		100,300
New York Commercial Co.	44,000	12,600	8,700	2,300=		67,600
Poel & Arnold			36,900	500=		37,400
A. T. Morse & Co.....	10,800	1,700	18,600			31,100
Hagemeyer & Brunn	15,300		11,200			26,500
Edmund Reeks & Co.....	6,800	700	6,600			14,100
C. P. dos Santos.....			2,600			2,600
Neale & Co.....		300	2,000			2,300
Total	100,800	21,400	141,800	37,900=		301,900

PARA RUBBER VIA EUROPE.

JUNE 22.—By the steamer <i>Celtic</i> =Liverpool:	POUNDS.
Poel & Arnold (Coarse).....	11,500
JUNE 26.—By the <i>Panama</i> =Mollendo:	
New York Commercial Co (Fine).....	5,000
JUNE 26.—By the <i>Coronia</i> =Liverpool:	
General Rubber Co (Caucho).....	22,500
JUNE 29.—By the <i>Pennsylvania</i> =Hamburg:	
New York Commercial Co. (Fine) 24,000	
Rubber Trading Co. (Fine).....	2,000
JULY 1.—By the <i>Prins Willem</i> =Bolivia, Venz.:	
Thebaud Brothers (Fine).....	11,000
Thebaud Brothers (Coarse).....	5,000
JULY 5.—By the <i>Baltic</i> =Liverpool:	
New York Commercial Co. (Fine) 30,000	
A. T. Morse & Co. (Coarse).....	11,000
Poel & Arnold (Coarse).....	5,000
JULY 5.—By the <i>Hudson</i> =Havre:	
Poel & Arnold (Coarse).....	11,500
JULY 8.—By the <i>St. Louis</i> =London:	
Poel & Arnold (Fine).....	7,000

CENTRALS—Continued.

JULY 8.—By the <i>Minnehaha</i> =London:	
General Rubber Co. (Coarse).....	13,500
JULY 9.—By the <i>Batavia</i> =Hamburg:	
New York Commercial Co. (Fine) 26,000	
General Rubber Co. (Caucho).....	4,500
JULY 10.—By the <i>Carmania</i> =Liverpool:	
Poel & Arnold (Fine).....	25,000
General Rubber Co. (Fine).....	8,000
New York Commercial Co. (Fine) 5,000	
Poel & Arnold (Caucho).....	36,000
JULY 15.—By the <i>Prins Maurits</i> =Ciudad, Bol.:	
Thebaud Brothers (Fine).....	22,500
Thebaud Brothers (Coarse).....	18,000
G. Amsinck & Co. (Coarse).....	3,500
JULY 15.—By the <i>Arcadia</i> =Hamburg:	
New York Commercial Co. (Fine) 22,500	
A. T. Morse & Co. (Coarse).....	13,500
JULY 16.—By the <i>Venetia</i> =Mollendo:	
W. R. Grace & Co. (Caucho).....	8,000
JUNE 22.—By the <i>Byron</i> =Bahia:	
Poel & Arnold	47,000

CENTRALS—Continued.

American Commercial Co.....	31,000
New York Commercial Co.....	11,000
A. Hirsch & Co.....	11,000
J. H. Rossback & Bros.....	3,500
JUNE 22.—By the <i>Esperanza</i> =Frontera:	
Harburger & Stack	9,500
Strube & Ultze	4,000
H. Marquardt & Co.....	3,500
E. Steiger & Co.....	1,500
New York Commercial Co.....	1,500
Frederick Probst & Co.....	1,000
Graham, Hinkley & Co.....	1,000
JUNE 24.—By the <i>Momus</i> =New Orleans:	
Manhattan Rubber Mfg. Co.....	4,000
G. Amsinck & Co.....	1,500
Eggers & Heinlein.....	1,500
JUNE 24.—By the <i>El Dia</i> =Galveston:	
Continental-Mexican Rubber Co.....	*40,000
JUNE 24.—By the <i>Vigilancia</i> =Tampico:	
New York Commercial Co.....	*110,000
Remsch & Helde.....	*25,000
Continental-Mexican Rubber Co.....	*25,000
Edward Maurer	*35,000
	*195,000

JUNE 26.—By the <i>Panama</i> =Colon:	
Hirzel, Feltman & Co.	3,500
Piza Nephews Co.	2,500
Meyer Hecht	1,500
Isaac Brandon & Bros.	1,500
Aramburo, Incorporated	1,500
G. Amsinck & Co.	1,000
Jose Julia & Co.	1,000
12,500	
JUNE 27.—By the <i>Sarnia</i> =Columbia:	
Escobar & Gorgorza Co.	5,000
G. Amsinck & Co.	1,500
United Fruit Co.	1,000
A. Held	1,000
Kunhardt & Co.	1,000
Eggers & Heinlein	1,000
10,500	
JUNE 27.—By the <i>Antilles</i> =New Orleans:	
Manhattan Rubber Mfg. Co.	4,000
A. N. Rotholz	2,000
A. T. Morse & Co.	1,000
7,000	
JUNE 28.—By the <i>El Cid</i> =Galveston:	
Continental-Mexican Rubber Co.	*25,000
JUNE 28.—By the <i>Goyas</i> =Pernambuco:	
A. D. Hitch & Co.	4,500
JUNE 29.—By the <i>Mexico</i> =Frontera:	
Harburger & Stack	6,500
G. Amsinck & Co.	1,000
E. Steiger & Co.	1,000
Graham, Hinkley & Co.	1,000
H. Marquardt & Co.	1,000
10,500	
JULY 1.—By the <i>Monsanto</i> =Tampico:	
New York Commercial Co.	*45,000
JULY 1.—By the <i>El Valle</i> =Galveston:	
Continental-Mexican Rubber Co.	*22,500
JULY 2.—By the <i>Alliance</i> =Colon:	
G. Amsinck & Co.	4,000
Roldau & Van Sickle	3,000
Henry Mann & Co.	3,000
Demarest Bros. & Co.	2,000
Suzarte & Whitney	1,000
Wessels, Kulenkamp & Co.	1,000
14,000	
JULY 2.—By the <i>Terence</i> =Bahia:	
Poel & Arnold	27,000
New York Commercial Co.	25,000
America Commercial Co.	20,000
A. Hirsch & Co.	8,000
J. H. Rossback & Bros.	5,000
85,000	
JULY 3.—By the <i>Joachim</i> =Columbia:	
D. A. De Lima & Co.	2,500
A. Held	2,500
Isaac Brandon & Bros.	1,500
6,500	
JULY 3.—By the <i>El Siglo</i> =Galveston:	
Continental-Mexican Rubber Co.	*44,500
JULY 6.—By the <i>Monterey</i> =Frontera:	
Harburger & Stack	3,500
Thebaud Brothers	2,500
New York Commercial Co.	2,000
8,000	
JULY 8.—By the <i>El Sud</i> =Galveston:	
Continental-Mexican Rubber Co.	*22,500
JULY 8.—By the <i>Bayamo</i> =Tampico:	
New York Commercial Co.	*46,000
Continental-Mexican Rubber Co.	*44,000
Edward Maurer	35,000
*125,000	
JULY 9.—By the <i>Sibira</i> =Honduras Ports:	
August Sanders & Co.	3,000
A. Rosenthal's Sons	2,000
Isaac Brandon & Bros.	1,000
Suzarte & Whitney	1,000
A. D. Straus & Co.	1,000
8,000	
JULY 11.—By the <i>Finance</i> =Colon:	
Piza, Nephews Co.	2,500
Maitland, Coppell & Co.	1,500
G. Amsinck & Co.	1,500
George A. Alden & Co.	1,000
6,500	
JULY 12.—By the <i>Merida</i> =Frontera:	
Harburger & Stack	8,000
E. Steiger & Co.	1,000
H. Marquardt & Co.	1,000
10,000	
JULY 13.—By the <i>Atrato</i> =Greentown:	
G. Amsinck & Co.	7,500
Aramburo, Incorporated	2,000
American Trading Co.	1,500
11,000	
JULY 13.—By the <i>El Paso</i> =Galveston:	
Continental-Mexican Rubber Co.	*22,500
JULY 15.—By the <i>Momus</i> =New Orleans:	
A. T. Morse & Co.	11,000
A. N. Rotholz	1,500
Manhattan Rubber Mfg. Co.	1,500
14,000	
JULY 15.—By the <i>El Norte</i> =Galveston:	
Continental-Mexican Rubber Co.	*22,500
JULY 17.—By the <i>Prins Aug. Willem</i> =Columbia:	
D. A. De Lima	2,000
A. Held	1,000
Escobar & Gorgorza Co.	1,000
Kunhardt & Co.	1,000
5,000	
JULY 17.—By the <i>Camaguey</i> =Tampico:	
Continental-Mexican Rubber Co.	*45,000

Edward Maurer	*40,000
New York Commercial Co.	*20,000
105,000	
JULY 18.—By the <i>El Rio</i> =Galveston:	
Continental-Mexican Rubber Co.	*22,500
JULY 18.—By the <i>Titan</i> =Bahia:	
Poel & Arnold	31,000
American Commercial Co.	15,000
J. H. Rossback & Bros.	11,000
New York Commercial Co.	9,000
A. D. Hitch & Co.	7,000
73,000	
JULY 19.—By the <i>Advance</i> =Colon:	
G. Amsinck & Co.	9,000
Jose Julia & Co.	2,500
Meyer Hecht	2,000
A. dos Santos & Co.	1,500
Dumarest Bros. & Co.	1,500
Roldau & Van Sickle	1,500
W. K. Grace & Co.	1,000
L. Johnson & Co.	1,000
20,000	
JULY 22.—By the <i>Vigilancia</i> =Tampico:	
New York Commercial Co.	*25,000
Continental-Mexican Rubber Co.	*22,500
Diamond Rubber Co.	9,000
H. Marquardt & Co.	2,500
Graham, Hinkley & Co.	1,500
60,500	

*This sign, in connection with imports of Centrals, denotes Guayule rubber.

AFRICANS.

JUNE 22.—By the <i>Memphis</i> =Antwerp:	
Robinson & Stiles	7,000
JUNE 22.—By the <i>Celtic</i> =Liverpool:	
Poel & Arnold	5,500
George A. Alden & Co.	5,500
A. T. Morse & Co.	4,500
Livesey & Co.	3,500
19,000	
JUNE 24.—By the <i>St. Laurent</i> =Havre:	
Poel & Arnold	115,000
C. P. dos Santos	7,000
122,000	
JUNE 28.—By the <i>Peninsular</i> =Lisbon:	
General Rubber Co.	168,000
George A. Alden & Co.	22,500
190,500	
JUNE 29.—By the <i>Pennsylvania</i> =Hamburg:	
A. T. Morse & Co.	22,500
Livesey & Co.	22,500
Poel & Arnold	11,000
56,000	
JULY 1.—By the <i>Arabic</i> =Liverpool:	
A. W. Brunn & Co.	4,500
General Rubber Co.	4,500
9,000	
JULY 2.—By the <i>Minneapolis</i> =London:	
Robinson & Stiles	8,000
JULY 3.—By the <i>Vaderland</i> =Antwerp:	
George A. Alden & Co.	40,000
Poel & Arnold	40,000
A. T. Morse & Co.	22,500
Rubber Trading Co.	7,000
Windmiller & Reekler	11,000
Robinson & Stiles	4,500
125,000	
JULY 5.—By the <i>Baltic</i> =Liverpool:	
Rubber Trading Co.	3,500
A. T. Morse & Co.	2,500
Livesey & Co.	2,500
8,500	
JULY 8.—By the <i>St. Louis</i> =London:	
General Rubber Co.	33,500
JULY 9.—By the <i>Batavia</i> =Hamburg:	
A. T. Morse & Co.	54,000
Rubber Trading Co.	3,500
57,500	
JULY 9.—By the <i>Kroonland</i> =Antwerp:	
George A. Alden & Co.	16,000
A. T. Morse & Co.	13,000
Joseph Cantor	5,000
34,000	
JULY 10.—By the <i>Carmania</i> =Liverpool:	
General Rubber Co.	11,500
JULY 11.—By the <i>Amerika</i> =Marseilles:	
Livesey & Co.	7,000
JULY 12.—By the <i>Cedric</i> =Liverpool:	
George A. Alden & Co.	13,000
JULY 15.—By the <i>Arcadia</i> =Hamburg:	
George A. Alden & Co.	18,000
Livesey & Co.	11,000
W. L. Gough Co.	1,500
30,500	
JULY 15.—By the <i>Philadelphia</i> =London:	
General Rubber Co.	4,500
JULY 17.—By the <i>Zeeland</i> =Antwerp:	
Rubber Trading Co.	22,500
JULY 22.—By the <i>Patricia</i> =Hamburg:	
A. T. Morse & Co.	76,000
George A. Alden & Co.	2,000
78,000	
JULY 22.—By the <i>Oseola</i> =Lisbon:	
General Rubber Co.	56,000
JULY 22.—By the <i>California</i> =Havre:	
Poel & Arnold	47,000
George A. Alden & Co.	10,000
57,000	

EAST INDIAN.

JUNE 21.—By the <i>Athole</i> =Singapore:	
Heabler & Co.	30,000
Joseph Cantor	22,000
A. T. Morse & Co.	13,000
H. Pauli	9,500
Poel & Arnold	9,000
83,500	
JUNE 25.—By the <i>Goldenfels</i> =Colombo:	
A. T. Morse & Co.	*9,500
JUNE 25.—By the <i>Minnetonka</i> =London:	
General Rubber Co.	11,500
Robinson & Stiles	2,500
Earle Brothers	2,000
A. T. Morse & Co.	1,500
17,500	
JULY 1.—By the <i>St. George</i> =Singapore:	
Poel & Arnold	13,500
Joseph Cantor	9,000
22,500	
JULY 8.—By the <i>St. Louis</i> =London:	
Poel & Arnold	5,500
JULY 8.—By the <i>Minnehaha</i> =London:	
George A. Alden & Co.	5,500
JULY 12.—By the <i>Tuscarora</i> =Colombo:	
A. T. Morse & Co.	*13,000
JULY 18.—By the <i>Teutonic</i> =London:	
Poel & Arnold	5,000
Akron, Ohio	2,500
7,500	
JULY 22.—By the <i>Montrose</i> =Singapore:	
Winter & Smilie	10,000
Joseph Cantor	28,000
Poel & Arnold	9,000
47,000	

*Denotes Plantation rubber.

GUTTA-JELUTONG.

JUNE 21.—By the <i>Athole</i> =Singapore:	
Heabler & Co.	260,000
Joseph Cantor	15,000
H. Pauli	110,000
W. L. Gough Co.	350,000
N. Joachimson	450,000
Winter & Smilie	325,000
W. R. Russell & Co.	225,000
George A. Alden & Co.	190,000
J. W. Phryfe & Co.	20,000
William Tappenbeck	325,000
2,180,000	
JULY 1.—By the <i>St. George</i> =Singapore:	
Winter & Smilie	100,000
W. L. Gough Co.	90,000
George A. Alden & Co.	50,000
H. Pauli	45,000
285,000	
JULY 3.—By the <i>Victorian</i> =Liverpool:	
Heabler & Co.	110,000
JULY 22.—By the <i>Montrose</i> =Singapore:	
Heabler & Co.	115,000
N. Joachimson	230,000
J. F. Recknagle & Son	7,000
372,000	

GUTTA-PERCHA.

JUNE 21.—By the <i>Athole</i> =Singapore:	
H. Pauli	35,000
Heabler & Co.	95,000
Poel & Arnold	25,000
155,000	
JUNE 29.—By the <i>Pennsylvania</i> =Hamburg:	
Robert Soltan Co.	7,000
JULY 22.—By the <i>Patricia</i> =Hamburg:	
Robert Soltan Co.	7,000
JULY 22.—By the <i>Montrose</i> =Singapore:	
H. Pauli	42,000
BALATA.	
JULY 1.—By the <i>Prins Willem</i> =Ciudad Bolivar:	
Middleton & Co.	10,000
JULY 1.—By the <i>Philadelphia</i> =La Guayra:	
G. Amsinck & Co.	4,500
JULY 5.—By the <i>Manoa</i> =Demerara:	
Frame & Co.	10,000
George A. Alden & Co.	7,000
A. T. Morse & Co.	5,000
Middleton & Co.	2,500
24,500	

CUSTOM HOUSE STATISTICS.

PORT OF NEW YORK—JUNE.		
Imports:	Pounds.	Value.
India-rubber	4,745,690	\$3,303,454
Balata	21,424	9,262
Gutta-percha	412,698	25,885
Gutta-jelutong (Pontianak)	2,869,288	131,139
Total	8,049,300	\$3,469,760
Exports:		
India-rubber	97,718	\$82,451
Reclaimed rubber	71,204	8,103
Rubber Scrap imported	2,210,298	\$220,668



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Liverpool.

WILLIAM WRIGHT & Co. report [July 1]:

Fine Para.—With large stocks holders evinced some anxiety to realize, and prices on spot for Upriver dropped to 4s. 6¼d; Islands 4s. 6¼d. At these prices a better demand was experienced, and prices advanced somewhat to 4s. 7½d., closing with a hardening tendency and few sellers at current sales. With a good demand in Manaos and prices 3d. per pound above the parity of those ruling here, and in addition the certainty of small receipts, we are of opinion, there is more room for an advance than a decline. For delivery there has been a strong inquiry at current rates, but only a fair business done owing to the cautious policy pursued by sellers.

Peruvian.—There has been an exceeding strong demand for Ball, and an advance of 3½d. to 4d. per pound has taken place. In our opinion, both the decline and the advance have been overdone; of course supplies are sure to be small, but manufacturers can use other grades in substitution, and if the "bulls" push prices too high they are likely to find themselves just as wrong as the "bears" did in the beginning of the month. In our opinion to-day's value of Ball as compared with other grades is not over 3s. 7½d.

EDMUND SCHLUTER & Co. report [June 30]:

Para Rubber.—Since our last report the market has scarcely moved at all, the price for hard fine in warehouse and for delivery having been 4s. 7½d. to 4s. 7¼d. for practically the whole of June. The market therefore seems for the present to have found its level, with rather an upward tendency during the first few days of the present month.

WORLD'S VISIBLE SUPPLY OF PARA, JUNE 30.

	1907.	1906.	1905.	1904.	1903.	1902.
Tons.....	3601	3147	2617	2028	3335	3776
Prices, hard, fine. 4/7¼	5/2	5/7	4/9¼	3/11¼	2/11¼	

LIVERPOOL STOCKS OF AFRICAN RUBBER, JUNE 30.

	1907.....	1906.....	1905.....	1904.....	1903.....	1902.....
301	560	768				
379	371	777				
368	543	530				

Mr. Albert B. Bussweiler has retired from the rubber importing firm of Meyer & Bussweiler, Limited, formed in 1903, and has joined the india-rubber department of W. J. & H. Thompson, tea and general produce dealers, 38, Mincing lane, E. C. London. Mr. Bussweiler was a member of the one time firm of Symington, Bussweiler & Co.

Antwerp.

RUBBER ARRIVALS FROM THE CONGO.

May 1.—By the <i>Leopoldville</i>	377,850 kilos.
May 21.—By the <i>Bruxellesville</i>	243,000 "
June 11.—By the <i>Albertville</i>	298,050 "
July 4.—By the <i>Leopoldville</i>	294,600 "

At the June 18 auction a lot of 9,660 kilograms of guayule rubber, in blocks, described as "refined," and estimated at 7.35 francs [=64 1-3 cents per pound], being held at that price, failed to find purchasers.

OFFICIAL STATISTICS OF RUBBER (IN POUNDS).

UNITED STATES.

MONTHS.	IMPORTS.	EXPORTS.	NET IMPORTS.
May, 1907.....	6,538,741	358,953	6,179,788
January-April.....	30,774,911	1,478,424	29,296,487
Five months, 1907	37,313,652	1,837,377	35,476,275
Five months, 1906	29,598,479	1,539,549	28,058,921
Five months, 1905	36,138,536	1,353,926	34,784,610

GERMANY.

MONTHS.	IMPORTS.	EXPORTS.	NET IMPORTS.
May, 1907.....	3,264,580	902,880	2,361,700
January-April.....	12,675,300	4,493,940	8,181,360
Five months, 1907	15,939,880	5,396,820	10,543,060
Five months, 1906	17,318,400	4,637,160	12,681,240
Five months, 1905	18,987,980	6,113,580	12,874,400

FRANCE.*

MONTHS.	IMPORTS.	EXPORTS.	NET IMPORTS.
May, 1907.....	3,535,840	1,893,760	1,642,080
January-April.....	11,389,620	7,425,440	3,964,180
Five months, 1907	14,925,460	9,319,200	5,606,260
Five months, 1906	15,100,140	7,161,660	7,938,480
Five months, 1905	12,358,720	6,784,580	5,574,140

BELGIUM.†

MONTHS.	IMPORTS.	EXPORTS.	NET IMPORTS.
May, 1907.....	1,897,810	1,252,660	645,150
January-April.....	6,196,592	3,880,392	2,316,200
Five months, 1907	8,094,402	5,133,052	2,961,350
Five months, 1906	9,376,232	5,323,845	4,052,387
Five months, 1905	7,381,865	5,318,974	2,062,891

GREAT BRITAIN.

MONTHS.	IMPORTS.	EXPORTS.	NET IMPORTS.
May, 1907.....	7,982,464	4,619,104	3,363,360
January-April.....	28,949,872	12,725,216	16,224,656
Five months, 1907	36,932,336	17,344,320	19,588,016
Five months, 1906	29,796,032	15,913,632	13,882,400
Five months, 1905	27,856,192	15,425,880	12,430,312

NOTE.—German statistics before Jan. 1, 1906, include Gutta-percha, Balata, old (waste) rubber. British figures include old rubber. French, Austrian and Italian figures include Gutta-percha. The exports from the United States embrace the supplies for Canadian consumption.

*General Commerce.

†Special Commerce.



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Seeds and stumps forwarded to all parts of the World. Orders being booked from Planters, Merchants, Govt. Botanical and Agricultural Departments, Officials, Consuls, Missionaries, Lawyers, etc., from all parts of the Globe.

The Chief of a Botanical and Scientific Department who bought a large quantity of Para and Castilloa seed from last two crops, writes, 19th November, 1906: "We may however want a large quantity of seeds next year, both of Castilloa and Para. I shall be obliged if you will quote me your lowest possible price for both Para and Castilloa in quantities of 250,000, 500,000, 750,000 and 1,000,000."

The Director of a Govt. Experiment Station, Honolulu, writes, December 18th, 1906: "Yours of October 15th at hand; the 22 packages Castilloa Elastica seed came about three weeks ago, and are of good quality, nearly all having germinated."

Special offer of seeds and stumps, with circulars, on view at the office of this paper and post free on application.

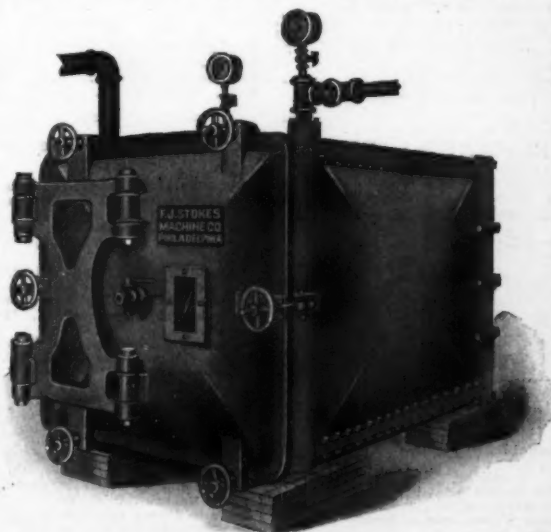
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See further particulars in our advertisement in this paper, page 41.

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Revere Rubber Co., Boston, Mass.
Voorhees Rubber Mfg. Co., Jersey City.

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Acme Rubber Mfg. Co., Trenton.
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Cleveland Rubber Co., Cleveland, O.
Continental Rubber Works, Erie, Pa.
Davol Rubber Co., Providence, R. I.
Dayton Rubber Mfg. Co., Dayton, O.
Electric Hose & Rubber Co., Wilmington, Del.
Empire Rubber Mfg. Co., Trenton, N. J.
B. F. Goodrich Co., Akron, O.
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Revere Rubber Co., Boston-New York.
Voorhees Rubber Mfg. Co., Jersey City.

Deckle Straps.

Boston Belting Co., Boston.
Canadian Rubber Co., of Montreal.
B. F. Goodrich Co., Akron, O.
Mechanical Rubber Co., Chicago.
New York Belting & Packing Co., N. Y.
Revere Rubber Co., Youngstown, O.
Revere Rubber Co., Boston-New York.

Door Springs.

Hodgman Rubber Co., New York.

Dredging Sleeves.

Acme Rubber Mfg. Co., Trenton.
Boston Belting Co., Boston-New York.
Boston Woven Hose & Rubber Co.
Canadian Rubber Co., of Montreal.
Continental Rubber Works, Erie, Pa.
Dayton Rubber Mfg. Co., Dayton, O.
B. F. Goodrich Co., Akron, O.
Gutta Percha & Rubber Mfg. Co., N. Y.
The Gutta Percha & Rubber Mfg. Co., of Toronto, Ltd.
Home Rubber Co., Trenton, N. J.
N. J. Car Spring & Rubber Co., Jersey City.
New York Belting & Packing Co., N. Y.
Revere Rubber Co., Youngstown, O.
Revere Rubber Co., Boston, Mass.

Force Cups.

The Gutta Percha & Rubber Mfg. Co., of Toronto, Ltd.
Hodgman Rubber Co., New York.
National India Rubber Co., Bristol, R. I.

Fruit Jar Rings.

Acme Rubber Mfg. Co., Trenton.
Boston Woven Hose & Rubber Co.
Canadian Rubber Co., of Montreal.
Cincinnati Rubber Mfg. Co., Cincinnati, Ohio.
Cleveland Rubber Co., Cleveland, O.
Continental Rubber Works, Erie, Pa.
Dayton Rubber Mfg. Co., Dayton, O.
B. F. Goodrich Co., Akron, O.
Empire Rubber Mfg. Co., Trenton, N. J.
The Gutta Percha & Rubber Mfg. Co., of Toronto, Ltd.
Manhattan Rubber Mfg. Co., New York.
Republic Rubber Co., Youngstown, O.
New York Belting & Packing Co., N. Y.

Fuller Balls.

Continental Rubber Works, Erie, Pa.
B. F. Goodrich Co., Akron, O.
Jenkins Bros., New York.
National India Rubber Co., Bristol, R. I.
N. J. Car Spring & Rubber Co., Jersey City.
New York Belting & Packing Co., N. Y.
Peerless Rubber Mfg. Co., New York.
Revere Rubber Co., Youngstown, O.

Gage Glass Washers.

Boston Belting Co., Boston, Mass.
Canadian Rubber Co., of Montreal.
Cleveland Rubber Co., Cleveland, O.
Continental Rubber Works, Erie, Pa.
Dayton Rubber Mfg. Co., Dayton, O.
Electric Hose & Rubber Co., Wilmington, Del.
Empire Rubber Mfg. Co., Trenton, N. J.
B. F. Goodrich Co., Akron, O.
The Gutta Percha & Rubber Mfg. Co., of Toronto, Ltd.
Home Rubber Co., Trenton, N. J.
Jenkins Bros., New York.
Manhattan Rubber Mfg. Co., New York.
Mechanical Rubber Co., Chicago, Ill.
National India Rubber Co., Bristol, R. I.
N. J. Car Spring & Rubber Co., Jersey City, N. J.
New York Belting & Packing Co., N. Y.
New York Rubber Co., New York.

Gage Glass Washers.—Continued.

Revere Rubber Co., Boston, Mass.
Jos. Stokes Rubber Co., Trenton, N. J.
Voorhees Rubber Mfg. Co., Jersey City, N. J.

Gas-Bags (Rubber).

Canadian Rubber Co., of Montreal.
Cleveland Rubber Co., Cleveland, O.
Davidson Rubber Co., Boston.
Davol Rubber Co., Providence, R. I.
B. F. Goodrich Co., Akron, O.
The Gutta Percha & Rubber Mfg. Co., of Toronto, Ltd.
National India Rubber Co., Bristol, R. I.
Peerless Rubber Mfg. Co., New York.
Tyr Rubber Co., Andover, Mass.
Voorhees Rubber Mfg. Co., Jersey City.

Gasket Tubing.

Boston Belting Co., Boston-New York.
Canadian Rubber Co., of Montreal.
Continental Rubber Works, Erie, Pa.
B. F. Goodrich Co., Akron, O.
The Gutta Percha & Rubber Mfg. Co., of Toronto, Ltd.
Jenkins Bros., New York.
National India Rubber Co., Bristol, R. I.
New Jersey Car Spring & Rubber Co.
Revere Rubber Co., Boston.

Grain Drill Tubes.

Cincinnati Rubber Mfg. Co., Cincinnati, Ohio.
Dayton Rubber Mfg. Co., Dayton, O.
The Gutta Percha & Rubber Mfg. Co., of Toronto, Ltd.

Hat Bags.

Boston Belting Co., Boston.
Canadian Rubber Co., of Montreal.
Continental Rubber Works, Erie, Pa.
B. F. Goodrich Co., Akron, O.
Home Rubber Co., Trenton, N. J.
Manhattan Rubber Mfg. Co., New York.
Mattson Rubber Co., Chicago.
Mechanical Rubber Co., Chicago.
N. J. Car Spring & Rubber Co., Jersey City, N. J.
New York Belting & Packing Co., N. Y.
New York Rubber Co., New York.
Peerless Rubber Mfg. Co., New York.
Revere Rubber Co., Youngstown, O.
Revere Rubber Co., Boston.

Horse Shoe Pads.

Canadian Rubber Co., of Montreal.
Continental Rubber Works, Erie, Pa.
Home Rubber Co., Trenton, N. J.
Peerless Rubber Mfg. Co., New York.
Plymouth Rubber Co., Stoughton, Mass.
Revere Rubber Co., Boston-New York.
Voorhees Rubber Mfg. Co., Jersey City.

Hose—Wire Wound.

Acme Rubber Mfg. Co., Trenton.
Boston Belting Co., Boston-New York.
Boston Woven Hose & Rubber Co.
Canadian Rubber Co., of Montreal.
Continental Rubber Works, Erie, Pa.
Dayton Rubber Mfg. Co., Dayton, O.
Electric Hose & Rubber Co., Wilmington, Del.
B. F. Goodrich Co., Akron, O.
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New York Belting & Packing Co., N. Y.
Peerless Rubber Mfg. Co., New York.
Revere Rubber Co., Youngstown, O.
Voorhees Rubber Mfg. Co., Jersey City.

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Alderfer Crute Co., Sharon Center, O.
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Canadian Rubber Co., of Montreal.
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Revere Rubber Co., Boston.
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Empire Rubber Mfg. Co., Trenton, N. J.
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Peerless Rubber Mfg. Co., New York.
Revere Rubber Co., Youngstown, O.
Revere Rubber Co., Boston.
Jos. Stokes Rubber Co., Trenton, N. J.
Voorhees Rubber Mfg. Co., Jersey City.

Hose—Submarine.

Acme Rubber Mfg. Co., Trenton.
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Electric Hose & Rubber Co., Wilmington, Del.
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Gutta Percha & Rubber Mfg. Co., N. Y.
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Revere Rubber Co., Boston.
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B. F. Goodrich Co., Akron, O.
The Gutta Percha & Rubber Mfg. Co., of Toronto, Ltd.
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New York Belting & Packing Co., N. Y.
Peerless Rubber Mfg. Co., New York.
Revere Rubber Co., Boston-New York.

Mould Work.

(See Mechanical Rubber Goods.)
H. O. Canfield Co., Bridgeport, Ct.
Continental Rubber Works, Erie, Pa.
Davidson Rubber Co., Boston.
Davol Rubber Co., Providence, R. I.
Dayton Rubber Mfg. Co., Dayton, O.
Faultless Rubber Co., Akron, O.
The Gutta Percha & Rubber Mfg. Co., of Toronto, Ltd.
Hodgman Rubber Co., New York.
La Crosse (Wis.) Rubber Mills Co., Massachusetts Chemical Co., Walpole, Mass.
Mattson Rubber Co., New York.
Milford Rubber Works, Milford, Ill.
Mitsel Rubber Co., Akron, O.
Plymouth Rubber Co., Stoughton, Mass.
Tyr Rubber Co., Andover, Mass.
Western Rubber Works, Goshen, Ind.

Oil Well Supplies.

Boston Belting Co., Boston-New York.
Boston Woven Hose & Rubber Co.
Continental Rubber Works, Erie, Pa.
B. F. Goodrich Co., Akron, O.
Gutta Percha & Rubber Mfg. Co., N. Y.
The Gutta Percha & Rubber Mfg. Co., of Toronto, Ltd.
Home Rubber Co., Trenton, N. J.
Manhattan Rubber Mfg. Co., New York.
National India Rubber Co., Bristol, R. I.
N. J. Car Spring & Rubber Co., Jersey City, N. J.
New York Belting & Packing Co., N. Y.
New York Rubber Co., New York.
Peerless Rubber Mfg. Co., New York.
Revere Rubber Co., Youngstown, O.
Revere Rubber Co., Boston-New York.
Voorhees Rubber Mfg. Co., Jersey City.

Oil Well Supplies.—Continued.

Revere Rubber Co., Youngstown, O.
Revere Rubber Co., Boston-Pittsburgh.
Voorhees Rubber Mfg. Co., Jersey City.

Packing.

(See Mechanical Rubber Goods.)

Alfred Calmon, Ltd., London.
Dayton Rubber Mfg. Co., Dayton, O.
Jenkins Bros., New York.
New Jersey Car Spring & Rubber Co.
Voorhees Rubber Mfg. Co., Jersey City.

Paper Machine Rollers.

Boston Belting Co., Boston-New York.
B. F. Goodrich Co., Akron, O.
Gutta Percha & Rubber Mfg. Co., N. Y.
New York Belting & Packing Co., N. Y.
Peerless Rubber Mfg. Co., New York.
Revere Rubber Co., Youngstown, O.
Revere Rubber Co., Boston-New York.
Voorhees Rubber Mfg. Co., Jersey City.

Plumbers' Supplies.

Canadian Rubber Co., of Montreal.
H. O. Canfield Co., Bridgeport, Ct.
Continental Rubber Works, Erie, Pa.
B. F. Goodrich Co., Akron, O.
The Gutta Percha & Rubber Mfg. Co., of Toronto, Ltd.
Revere Rubber Co., Youngstown, O.
Western Rubber Works, Goshen, Ind.

Pump Valves.

(See Mechanical Rubber Goods.)
Continental Rubber Works, Erie, Pa.
Dayton Rubber Mfg. Co., Dayton, O.
The Gutta Percha & Rubber Mfg. Co., of Toronto, Ltd.
Jenkins Bros., New York.
New York Belting & Packing Co., N. Y.
Revere Rubber Co., Boston, Mass.
Western Rubber Works, Goshen, Ind.

Rolls—Rubber Covered.

Boston Belting Co., Boston.
Canadian Rubber Co., of Montreal.
Cleveland Rubber Co., Cleveland, O.
Continental Rubber Works, Erie, Pa.
Empire Rubber Mfg. Co., Trenton, N. J.
B. F. Goodrich Co., Akron, O.
Gutta Percha & Rubber Mfg. Co., N. Y.
The Gutta Percha & Rubber Mfg. Co., of Toronto, Ltd.
Home Rubber Co., Trenton, N. J.
Manhattan Rubber Mfg. Co., New York.
Mechanical Rubber Co., Chicago.
N. J. Car Spring & Rubber Co., Jersey City, N. J.
New York Belting & Packing Co., N. Y.
Peerless Rubber Mfg. Co., New York.
Plymouth Rubber Co., Stoughton, Mass.
Revere Rubber Co., Youngstown, O.
Revere Rubber Co., Boston-New York.

Sewing Machine Rubbers.

Continental Rubber Works, Erie, Pa.
B. F. Goodrich Co., Akron, O.

Springs—Rubber.

Acme Rubber Mfg. Co., Trenton.
Boston Belting Co., Boston-New York.
Canadian Rubber Co., of Montreal.
Continental Rubber Works, Erie, Pa.
Dayton Rubber Mfg. Co., Dayton, O.
B. F. Goodrich Co., Akron, O.
Gutta Percha & Rubber Mfg. Co., N. Y.
The Gutta Percha & Rubber Mfg. Co., of Toronto, Ltd.
National India Rubber Co., Bristol, R. I.
N. J. Car Spring & Rubber Co., Jersey City.
New York Belting & Packing Co., N. Y.
Peerless Rubber Mfg. Co., New York.
Plymouth Rubber Co., Stoughton, Mass.
Revere Rubber Co., Youngstown, O.
Revere Rubber Co., Boston-New York.
Voorhees Rubber Mfg. Co., Jersey City.

Stair Treads.

Acme Rubber Mfg. Co., Trenton.
Boston Belting Co., Boston-New York.
Boston Woven Hose & Rubber Co.
Canadian Rubber Co., of Montreal.
Cleveland Rubber Co., Cleveland, O.
Continental Rubber Works, Erie, Pa.
Empire Rubber Mfg. Co., Trenton, N. J.
B. F. Goodrich Co., Akron, O.
Gutta Percha & Rubber Mfg. Co., N. Y.
The Gutta Percha & Rubber Mfg. Co., of Toronto, Ltd.
Home Rubber Co., Trenton, N. J.
Manhattan Rubber Mfg. Co., New York.
National India Rubber Co., Bristol, R. I.
N. J. Car Spring & Rubber Co., Jersey City, N. J.
New York Belting & Packing Co., N. Y.
New York Rubber Co., New York.
Peerless Rubber Mfg. Co., New York.
Revere Rubber Co., Youngstown, O.
Revere Rubber Co., Boston-New York.
Voorhees Rubber Mfg. Co., Jersey City.

RUBBER BUYERS' DIRECTORY—Continued.

Thread.

B. F. Goodrich Co., Akron, O.
Mechanical Fabric Co., Providence, R. I.
Revere Rubber Co., Boston.

Tiling.

Canadian Rubber Co., of Montreal, Ltd.
Continental Rubber Works, Erie, Pa.
B. F. Goodrich Co., Akron, O.
Gutta Percha & Rubber Mfg. Co., N. Y.
The Gutta Percha & Rubber Mfg. Co., of Toronto, Ltd.
N. J. Car Spring and Rubber Co., Jersey City.
New York Belting & Packing Co., N. Y.
Peerless Rubber Mfg. Co., New York.
Republie Rubber Co., Youngstown, O.
Voorhees Rubber Mfg. Co., Jersey City.

Tubing.

(See Mechanical Rubber Goods.)
American Hard Rubber Co., New York.
Continental Rubber Works, Erie, Pa.
Davidson Rubber Co., Boston.
Daval Rubber Co., Providence, R. I.
Dayton Rubber Mfg. Co., Dayton, O.
The Gutta Percha & Rubber Mfg. Co., of Toronto, Ltd.
Plymouth Rubber Co., Stoughton, Mass.
New Jersey Car Spring & Rubber Co.
New York Belting & Packing Co., N. Y.
Tyer Rubber Co., Andover, Mass.

Valve Balls.

Boston Belting Co., Boston.
Cleveland Rubber Co., Cleveland, O.
Continental Rubber Works, Erie, Pa.
Dayton Rubber Mfg. Co., Dayton, O.
B. F. Goodrich Co., Akron, O.
Jenkins Bros., New York.
Manhattan Rubber Mfg. Co., New York.
Mechanical Rubber Co., Chicago.
National India Rubber Co., Bristol, R. I.
New York Belting & Packing Co., N. Y.
Peerless Rubber Mfg. Co., New York.
Republie Rubber Co., Youngstown, O.
Revere Rubber Co., Boston.

Valve Discs.

American Hard Rubber Co., New York.
Boston Belting Co., Boston-New York.
Continental Rubber Works, Erie, Pa.
Dayton Rubber Mfg. Co., Dayton, O.
B. F. Goodrich Co., Akron, O.
Jenkins Bros., New York.
New York Belting & Packing Co., N. Y.
Peerless Rubber Mfg. Co., New York.
Republie Rubber Co., Youngstown, O.
Western Rubber Works, Goshen, Ind.

Valves.

(See Mechanical Rubber Goods.)
Continental Rubber Works, Erie, Pa.
Dayton Rubber Mfg. Co., Dayton, O.
The Gutta Percha & Rubber Mfg. Co., of Toronto, Ltd.
Jenkins Bros., New York-Chicago.
Milford Rubber Works Co., Milford, Ill.
New Jersey Car Spring & Rubber Co.
New York Belting & Packing Co., N. Y.
Vulcanite Emery Wheels.
Manhattan Rubber Mfg. Co., Passaic, N. J.
New York Belting & Packing Co., Ltd., New York.

Wringer Rolls.

Canadian Rubber Co., of Montreal.
Cleveland Rubber Co., Cleveland, O.
Continental Rubber Works, Erie, Pa.
Dayton Rubber Mfg. Co., Dayton, O.
B. F. Goodrich Co., Akron, O.
The Gutta Percha & Rubber Mfg. Co., of Toronto, Ltd.
Home Rubber Co., Trenton, N. J.
New York Belting & Packing Co., N. Y.
Republie Rubber Co., Youngstown, O.

DRUGGISTS' AND STATIONERS' SUNDRIES.**Atomizers.****Bandages.****Bulbs.****Syringes.****Water Bottles.**

Druggists' Sundries—General.
Allen Mfg. Co., Toledo, Ohio.
American Hard Rubber Co., New York
C. J. Bailey & Co., Boston.
Boston Woven Hose & Rubber Co.
Canadian Rubber Co., of Montreal.
Canton Rubber Co., Canton, O.
Cleveland Rubber Co., Cleveland, O.
Davidson Rubber Co., Boston.
Daval Rubber Co., Providence, R. I.
Faultless Rubber Co., Akron, O.
B. F. Goodrich Co., Akron, O.
Hodgman Rubber Co., New York.

Hygeia Nursing Bottle Co., Buffalo, N. Y.
Imperial Rubber Mfg. Co., Beach City, O.
Luxerne Rubber Co., Trenton, N. J.
Mittel Rubber Co., Akron, O.
National India Rubber Co., Bristol, R. I.
North British Rubber Co., Ltd., Edinburgh.

Pirelli & Co., Milan, Italy.
Seamless Rubber Co., New Haven, Ct.
Tyer Rubber Co., Andover, Mass.
Balls, Dolls and Toys.
New York Rubber Co., New York.

Combs.

American Hard Rubber Co., New York.

Elastic Bands.

Canadian Rubber Co., of Montreal.
Cleveland Rubber Co., Cleveland, O.
Daval Rubber Co., Providence, R. I.
B. F. Goodrich Co., Akron, O.
Hodgman Rubber Co., New York-Boston.
Tyer Rubber Co., Andover, Mass.

Erasive Rubbers.

Davidson Rubber Co., Boston.
B. F. Goodrich Co., Akron, O.
Mattson Rubber Co., New York.

Finger Cots.

Cleveland Rubber Co., Cleveland, O.
Davidson Rubber Co., Boston.
Faultless Rubber Mfg. Co., Akron, O.
B. F. Goodrich Co., Akron, O.
Imperial Rubber Mfg. Co., Beach City, O.
The Rubber Products Co., Barborton, O.

Gloves.

Canadian Rubber Co., of Montreal.
Daval Rubber Co., Providence, R. I.
Faultless Rubber Co., Akron, O.
B. F. Goodrich Co., Akron, O.
Imperial Rubber Mfg. Co., Beach City, O.
National India Rubber Co., Bristol, R. I.
Rubber Products Co., Barborton, O.

Hard Rubber Goods.

American Hard Rubber Co., New York.
Canadian Rubber Co., of Montreal.
Davidson Rubber Co., Boston.
H. O. Canfield Co., Bridgeport, Ct.
Daval Rubber Co., Providence, R. I.
Household Rubber Co., Youngstown, O.
Luxerne Rubber Co., Trenton, N. J.
Stokes Rubber Co., Joseph, Trenton, N. J.
Tyer Rubber Co., Andover, Mass.

Hospital Sheetings.

Cleveland Rubber Co., Cleveland, O.
Daval Rubber Co., Providence, R. I.
B. F. Goodrich Co., Akron, O.
Hodgman Rubber Co., New York.
National India Rubber Co., Bristol, R. I.
Plymouth Rubber Co., Stoughton, Mass.
Tyer Rubber Co., Andover, Mass.

Ice Bags and Ice Caps.

Cleveland Rubber Co., Cleveland, O.
Davidson Rubber Co., Boston.
Faultless Rubber Co., Akron, O.
B. F. Goodrich Co., Akron, O.
Imperial Rubber Mfg. Co., Beach City, O.
National India Rubber Co., Bristol, R. I.
The Rubber Products Co., Barborton, O.
Tyer Rubber Co., Andover, Mass.

Life Preservers.

Hodgman Rubber Co., New York.
National India Rubber Co., Bristol, R. I.

Nipples.

Canadian Rubber Co., of Montreal.
Cleveland Rubber Co., Cleveland, O.
Davidson Rubber Co., Boston.
Daval Rubber Co., Providence, R. I.
Faultless Rubber Co., Akron, O.
B. F. Goodrich Co., Akron, O.
Hygeia Nursing Bottle Co., Buffalo, N. Y.
Imperial Rubber Mfg. Co., Beach City, O.
The Rubber Products Co., Barborton, O.
Tyer Rubber Co., Andover, Mass.

Portable Bath Outfits.

Allen Mfg. Co., Toledo, Ohio.

Shower Bath Sprinklers.

A. Schrader's Son, Inc., New York.

Sponges (Rubber).

Geo. Borgfeldt & Co., New York.
Faultless Rubber Co., Ashland, O.
N. Tire Rubber Sponge Co., Chicago.

Stationers' Sundries.

American Hard Rubber Co., New York.
Boston Woven Hose & Rubber Co.
Canadian Rubber Co., of Montreal.
Cincinnati Rubber Mfg. Co., Cincinnati, Ohio.
Cleveland Rubber Co., Cleveland, O.
Davidson Rubber Co., Boston.
Daval Rubber Co., Providence, R. I.
B. F. Goodrich Co., Akron, O.

Hodgman Rubber Co., New York-Boston.
Seamless Rubber Co., New Haven, Ct.
Tyer Rubber Co., Andover, Mass.

Stopples (Rubber).

Cleveland Rubber Co., Cleveland, O.
Daval Rubber Co., Providence, R. I.
Hodgman Rubber Co., New York.
Manhattan Rubber Mfg. Co., New York.
National India Rubber Co., Bristol, R. I.
New York Belting & Packing Co., N. Y.
A. Schrader's Sons, Inc., New York.
Tyer Rubber Co., Andover, Mass.

Throat Bags.

Cleveland Rubber Co., Cleveland, O.
Davidson Rubber Co., Boston.
Daval Rubber Co., Providence, R. I.
B. F. Goodrich Co., Akron, O.
National India Rubber Co., Bristol, R. I.
Tyer Rubber Co., Andover, Mass.

Tobacco Pouches.

Canadian Rubber Co., of Montreal.
Davidson Rubber Co., Boston.
Faultless Rubber Co., Akron, O.
B. F. Goodrich Co., Akron, O.
The Rubber Products Co., Barborton, O.
Tyer Rubber Co., Andover, Mass.

MACKINTOSHED AND SURFACE GOODS.**Air Goods (Rubber).**

Canadian Rubber Co., of Montreal.
Cleveland Rubber Co., Cleveland, O.
Davidson Rubber Co., Boston.
Daval Rubber Co., Providence, R. I.
B. F. Goodrich Co., Akron, O.
Hodgman Rubber Co., New York.
Metropolitan Air Goods Co., Reading, Mass.
New York Rubber Co., New York.
National India Rubber Co., Providence.
Tyer Rubber Co., Andover, Mass.

Air Mattresses.

Canadian Rubber Co., of Montreal.
Metropolitan Air Goods Co., Reading, Mass.
Mechanical Fabric Co., Providence, R. I.
National India Rubber Co., Bristol, R. I.

Barbers' Dibs.

Cleveland Rubber Co., Cleveland, O.
Daval Rubber Co., Providence, R. I.
Tyer Rubber Co., Andover, Mass.

Bathing Caps.

Daval Rubber Co., Providence, R. I.
B. F. Goodrich Co., Akron, O.

Bellows Cloths.

Boston Rubber Co., Boston.
Cleveland Rubber Co., Cleveland, O.
Hodgman Rubber Co., New York.
La Crosse (Wis.) Rubber Mills Co.

Calendering.

La Crosse (Wis.) Rubber Mills Co.
Plymouth Rubber Co., Stoughton, Mass.

Carriage Ducks and Drills.

Cleveland Rubber Co., Cleveland, O.
Empire Rubber Mfg. Co., Trenton, N. J.
Gutta Percha & Rubber Mfg. Co., Toronto.
National India Rubber Co., Bristol, R. I.

Clothing.

Canadian Rubber Co., of Montreal.
Cleveland Rubber Co., Cleveland, O.
Gutta Percha & Rubber Mfg. Co., of Toronto.
Hodgman Rubber Co., New York.
La Crosse (Wis.) Rubber Mills Co.
National India Rubber Co., Bristol, R. I.
North British Rubber Co., Ltd., Edinburgh.
Pirelli & Co., Milan, Italy.

Cravenette.

Cravenette Co., Ltd.

Diving Apparatus.

A. Schrader's Son, Inc., New York.

Diving Dresses.

Hodgman Rubber Co., New York.

Dress Shields.

Mattson Rubber Co., New York.

Horse Covers.

Hodgman Rubber Co., New York.
National India Rubber Co., Bristol, R. I.

Leggings.

Cleveland Rubber Co., Cleveland, O.
Hodgman Rubber Co., New York.
National India Rubber Co., Bristol, R. I.

Mackintoshes.

(See Clothing.)

Proofing.

Canadian Rubber Co., of Montreal.
La Crosse (Wis.) Rubber Mills Co.
Plymouth Rubber Co., Stoughton, Mass.

Rain Coats.

Cravenette Co., Ltd.

Rubber Coated Cloths.

Mechanical Fabric Co., Providence, R. I.

RUBBER FOOTWEAR.**Boots and Shoes.**

American Rubber Co., Boston.
Boston Rubber Shoe Co., Boston.
Canadian Rubber Co., of Montreal.
L. Candee & Co., New Haven, Ct.
B. F. Goodrich Co., Akron, O.
Gutta Percha & Rubber Mfg. Co., of Toronto.
Hood Rubber Co., Boston.
Lycoming Rubber Co., Williamsport, Pa.
Meyer Rubber Co., New York.
Milford Rubber Works Co., Milford, Ill.
National India Rubber Co., Boston.
North British Rubber Co., Ltd., Edinburgh.
United States Rubber Co., New York.
Wales-Goodyear Rubber Co., Boston.
Woonsocket Rubber Co., Providence.

Heels and Soles.

Boston Woven Hose & Rubber Co.
Canadian Rubber Co., of Montreal.
Continental Caoutchouc & Guttapercha Co., Hanover.
The Gutta Percha & Rubber Mfg. Co., of Toronto, Ltd.
Plymouth Rubber Co., Stoughton, Mass.
Western Rubber Works, Goshen, Ind.

Tennis Shoes.

American Rubber Co., Boston.
Boston Rubber Shoe Co., Boston.
Granby Rubber Co., Granby, Quebec.
The Gutta Percha & Rubber Mfg. Co., of Toronto, Ltd.
La Crosse Rubber Mills Co., La Crosse, Wis.
National India Rubber Co., Providence.
United States Rubber Co., New York.

Wading Pants.

Canadian Rubber Co., of Montreal.
Hodgman Rubber Co., New York.

DENTAL AND STAMP RUBBER.**Dental Gum.**

American Hard Rubber Co., New York.
Cleveland Rubber Co., Cleveland, O.
Tyer Rubber Co., Andover, Mass.

Rubber Dam.

Cleveland Rubber Co., Cleveland, O.
Davidson Rubber Co., Boston.
Daval Rubber Co., Providence, R. I.
B. F. Goodrich Co., Akron, O.
Hodgman Rubber Co., New York.
Tyer Rubber Co., Andover, Mass.

Stamp Gum.

B. F. Goodrich Co., Akron, O.
Mattson Rubber Co., New York.
Mechanical Rubber Co., Chicago, Ill.
N. J. Car Spring & Rubber Co., Jersey City, N. J.
New York Belting & Packing Co., N. Y.

ELECTRICAL.**Electrical Supplies.**

American Hard Rubber Co., New York.
Lake Shore Rubber Co., Erie, Pa.
Joseph Stokes Rubber Co., Trenton, N. J.
Massachusetts Chemical Co., Boston.
Tyer Rubber Co., Andover, Mass.

Friction Tape.

Boston Belting Co., Boston.
Boston Woven Hose & Rubber Co.
Canadian Rubber Co., of Montreal.
Cleveland Rubber Co., Cleveland, O.
B. F. Goodrich Co., Akron, O.
Home Rubber Co., Trenton, N. J.
Massachusetts Chemical Co., Boston.
Mechanical Rubber Co., Chicago.
National India Rubber Co., Bristol, R. I.
Revere Rubber Co., Boston-New York.

RUBBER BUYERS' DIRECTORY—Continued.

Hard Rubber Goods.

American Hard Rubber Co., New York.
Canadian Rubber Co. of Montreal.
Luzerne Rubber Co., Trenton, N. J.
Joseph Stokes Rubber Co., Trenton, N. J.

Insulating Compounds.

Canadian Rubber Co. of Montreal.
Gutta-Percha & Rubber Mfg. Co., Toronto.
Massachusetts Chemical Co., Boston.

Insulated Wire and Cables.

National India Rubber Co., Providence.

Splicing Compounds.

Home Rubber Co., Trenton, N. J.
Massachusetts Chemical Co., Walpole, Mass.

SPORTING GOODS.**Foot Balls.**

Canadian Rubber Co. of Montreal.
Cleveland Rubber Co., Cleveland, O.
Faultless Rubber Co., Akron, O.
B. F. Goodrich Co., Akron, O.

Hodgman Rubber Co., New York.
National India Rubber Co., Bristol, R. I.

Golf Balls.

Boston Belting Co., Boston.
Canadian Rubber Co. of Montreal.
Davidson Rubber Co., Boston.
B. F. Goodrich Co., Akron, O.
The Gutta Percha & Rubber Mfg. Co., of Toronto, Ltd.

Sporting Goods.

Canadian Rubber Co. of Montreal.
Faultless Rubber Co., Akron, O.
B. F. Goodrich Co., Akron, O.
Hodgman Rubber Co., New York.
Tyer Rubber Co., Andover, Mass.

Striking Bags.

Canadian Rubber Co. of Montreal.
Cleveland Rubber Co., Cleveland, O.
Faultless Rubber Co., Akron, O.
B. F. Goodrich Co., Akron, O.
Rubber Products Co., Barbours, O.

Submarine Outfits.

Hodgman Rubber Co., New York.

MISCELLANEOUS.**Boxes (Wood).**

Henry H. Sheple & Co., Philadelphia.

Brass Fittings.

A. Schrader's Son, Inc., New York.

Buckles.

The Weld Mfg. Co., Boston.

Cement (Rubber).

Boston Belting Co., Boston.
Canadian Rubber Co. of Montreal.
B. F. Goodrich Co., Akron, O.
Hadley Cement Co., Lynn, Mass.
Manhattan Rubber Mfg. Co., New York.
N. J. Car Spring & Rubber Co., Jersey City, N. J.
New York Belting & Packing Co., N. Y.

Chemical Analyses.

Durand Woodman, Ph.D., New York.

Chemical and Mechanical Engineer.
Charles E. Farrington, Boston.

Chemists.

Stephen P. Sharples, Boston, Mass.
Durand Woodman, Ph.D., New York.

Consulting Engineer.

M. P. Fillingham, New York.

Recording Thermometers.

Bristol Co., New York.

Rubber Journals.

Gummi-Zeitung, Dresden, Germany.

Rubber Tree Seeds.

J. P. William & Bros., Heneratgoda, Ceylon.

Scrap Metals.

Robert L. Crooke, New York.

Valves for Air Goods.

A. Schrader's Son, Inc., New York.

MACHINERY AND SUPPLIES FOR RUBBER MILLS.

RUBBER MACHINERY.**Acid Tanks.**

Birmingham Iron Foundry, Derby, Conn.

Band Cutting Machines.

A. Adamson, Akron, O.
Alton Machine Co., New York.
Birmingham Iron Foundry, Derby, Conn.

Belt Folding Machines.

Birmingham Iron Foundry, Derby, Conn.
Farrel Foundry & Mach. Co., Ansonia, Conn.

Belt Slitters.**Cloth Dryers.****Gearing.****Shafting.****Wrapping Machines.**

Alton Machine Co., New York.
Birmingham Iron Foundry, Derby, Conn.
Farrel Foundry & Mach. Co., Ansonia, Conn.

Belt Stretchers.

Alton Machine Co., New York.
Birmingham Iron Foundry, Derby, Conn.
Farrel Foundry & Mach. Co., Ansonia, Conn.
Hoggson & Pettis Mfg. Co., New Haven.

Boilers.

William R. Thropp, Trenton, N. J.
John E. Thropp & Sons Co., Trenton, N. J.

Braiders.

New England Butt Co., Providence, R. I.
Textile Machine Works, Reading, Pa.

Cabling Machinery.

Alton Machine Co., New York.

Calenders.

Alton Machine Co., New York.
Birmingham Iron Foundry, Derby, Conn.
David Bridge & Co., Castleton, Manchester, Eng.
Farrel Foundry & Mach. Co., Ansonia, Conn.
Textile-Finishing Machinery Co., Providence, R. I.
Textile Machine Works, Reading, Pa.

Castings.

A. Adamson, Akron, O.
Birmingham Iron Foundry, Derby, Conn.
Farrel Foundry & Mach. Co., Ansonia, Conn.

Chucks (Lathe).

Hoggson & Pettis Mfg. Co., New Haven.

Churns.

American Tool & Machine Co., Boston.

Clutches.

Farrel Foundry & Mach. Co., Ansonia, Conn.

Crackers.

Alton Machine Co., New York.
Birmingham Iron Foundry, Derby, Conn.

Devulcanizers.

Alton Machine Co., New York.
Biggs Boiler Works Co., Akron, O.
Birmingham Iron Foundry, Derby, Conn.
Edred W. Clark, Hartford, Conn.
William R. Thropp, Trenton, N. J.

Dies.

John J. Adams, Worcester, Mass.
Boston Die Co., Boston.
Hoggson & Pettis Mfg. Co., New Haven.
Joseph E. Knox & Co., Lynn, Mass.

Doubling Machines.

American Tool & Machine Co., Boston.

Drying Apparatus.

American Process Co., New York.

Drying Machines.

Alton Machine Co., New York.
David Bridge & Co., Castleton, Manchester, Eng.
Joseph P. Devine, Buffalo, N. Y.
Birmingham Iron Foundry, Derby, Conn.
Textile-Finishing Machinery Co., Providence, R. I.

Embossing Calenders.

Textile-Finishing Machinery Co., Providence, R. I.

Engines, Steam.

Alton Machine Co., New York.
William R. Thropp, Trenton, N. J.
John E. Thropp & Sons Co., Trenton, N. J.

Engraving Rolls.

Hoggson & Pettis Mfg. Co., New Haven.

Grinders and Mixers.

Alton Machine Co., New York.
Birmingham Iron Foundry, Derby, Conn.
Farrel Foundry & Mach. Co., Ansonia, Conn.
William R. Thropp, Trenton, N. J.

Hangers.

Farrel Foundry & Mach. Co., Ansonia, Conn.

Hose Machines.

A. Adamson, Akron, O.
Alton Machine Co., New York.
Birmingham Iron Foundry, Derby, Conn.
New England Butt Co., Providence, R. I.

Hydraulic Accumulators.

Birmingham Iron Foundry, Derby, Conn.
Farrel Foundry & Mach. Co., Ansonia, Conn.

Insulating Machinery.

Textile Machine Works, Reading, Pa.

Iron Castings.

Alton Machine Co., New York.

Lasts (Rubber Shoe).

Middlesex Last Co., Boston.

Lathe—Hard Rubber.

A. Adamson, Akron, O.

Lathe—Jar Ring.

A. Adamson, Akron, O.
Alton Machine Co., New York.
Birmingham Iron Foundry, Derby, Conn.
William R. Thropp, Trenton, N. J.

Machinists' Tools.

Hoggson & Pettis Mfg. Co., New Haven.

Moulds.

A. Adamson, Akron, O.
Alton Machine Co., New York.
Barbour Bros., Trenton, N. J.
Birmingham Iron Foundry, Derby, Conn.
B. F. Goodrich Co., Bridgeport, Conn.
Hoggson & Pettis Mfg. Co., New Haven.
Williams Foundry & Machine Co., Akron, Ohio.

Pillow Blocks.

Farrel Foundry & Mach. Co., Ansonia, Conn.

Presses (for Rubber Work).

A. Adamson, Akron, O.
Alton Machine Co., New York.
Bay State Machine Co., Erie, Pa.
Birmingham Iron Foundry, Derby, Conn.
Boomer & Boschert Press Co., Syracuse, N. Y.
Edred W. Clark, Hartford, Conn.
Farrel Foundry & Mach. Co., Ansonia, Conn.
William R. Perrin & Co., Chicago Ill.
William R. Thropp, Trenton, N. J.
Williams Foundry & Machine Co., Akron, Ohio.

Pumps.

Alton Machine Co., New York.
Birmingham Iron Foundry, Derby, Conn.
Boomer & Boschert Press Co., Syracuse, N. Y.
Farrel Foundry & Mach. Co., Ansonia, Conn.

Racks for Boot and Shoe Cars.

Hoggson & Pettis Mfg. Co., New Haven.

Reducing Valves.

Mason Regulator Co., Boston.

Rollers (Hand).

Hoggson & Pettis Mfg. Co., New Haven.

Rubber Covering Machines.

Alton Machine Co., New York.

New England Butt Co., Providence, R. I.

Separators.

Turner, Vaughan & Taylor Co., Cuyahoga Falls, O.

Separators for Reclaimed Rubber.

American Process Co., New York.

Special Rubber Machinery.

Alton Machine Co., New York.

Wellman Co., Medford, Mass.

Spreaders.

Alton Machine Co., New York.

American Tool & Machine Co., Boston.

Birmingham Iron Foundry, Derby, Conn.

New England Butt Co., Providence, R. I.

Steam Traps and Specialties.

Jenkins Bros., New York.

Mason Regulator Co., Boston.

Osgood Sayen, Philadelphia, Pa.

Steel Stamps.

Hoggson & Pettis Mfg. Co., New Haven.

Stitchers (Hand).

Hoggson & Pettis Mfg. Co., New Haven.

Strip Covering Machines.

Alton Machine Co., New York.

New England Butt Co., Providence, R. I.

Tire Molds.

Bay State Machine Co., Erie, Pa.
Williams Foundry & Machine Co., Akron, O.

Tubing Machines.

A. Adamson, Akron, O.
Alton Machine Co., New York.
Bay State Machine Co., Erie, Pa.
Edred W. Clark, Hartford, Conn.
John Royle & Sons, Paterson, N. J.
Textile Machine Works, Reading, Pa.
Williams Foundry & Machine Co., Akron, Ohio.

Vacuum Drying Chambers.

Alton Machine Co., New York.
Joseph P. Devine Co., Buffalo, N. Y.
F. J. Stokes Machine Co., Philadelphia, Pa.

Varnishing Machines.

Birmingham Iron Foundry, Derby, Conn.

Vulcanizers.

Alton Machine Co., New York.
Biggs Boiler Works Co., Akron, O.
Birmingham Iron Foundry, Derby, Conn.
Farrel Foundry & Mach. Co., Ansonia, Conn.
John E. Thropp's Sons Co., Trenton, N. J.
William R. Thropp, Trenton, N. J.

Washers.

Alton Machine Co., New York.
Birmingham Iron Foundry, Derby, Conn.
David Bridge & Co., Castleton, Manchester, Eng.
Continental Rubber Works, Erie, Pa.
Farrel Foundry & Mach. Co., Ansonia, Conn.
William R. Thropp, Trenton, N. J.
Turner, Vaughan & Taylor Co., Cuyahoga Falls, O.

Wire Insulating Machines.

Alton Machine Co., New York.

New England Butt Co., Providence, R. I.

Wire Rope Machinery.

Alton Machine Co., New York.

SECOND-HAND MACHINERY.

Philip McGroarty, Trenton, N. J.
M. Norton & Co., Charlestown, Mass.

FACTORY SUPPLIES.**Aluminum Flake.**

Aluminum Flake Co., Akron, O.

Antimony, Sulphurets of.

Golden.

Actien-Ges. Georg Egestorff's Salzworke

Linden, Germany.

Atlas Chemical Co., Newtonville, Mass.

Golden and Crimson.

Joseph Cantor, New York.

Geo. F. Lafferty, Jr., Elizabeth, N. J.

MACHINERY AND SUPPLIES FOR RUBBER MILLS—Continued.**Antimony, Sulphurets of.—Continued.**

Golden and Crimmon.
Wm. H. Scheel, New York.
Stamford (Conn.) Rubber Supply Co.
Type & King, London, England.

Balata.
George A. Alden & Co., Boston.
Raw Products Co., New York.

Benzol.
Samuel Cabot, Boston.

Black Hypo.
Joseph Cantor, New York.
William H. Scheel, New York.
Type & King, London, England.

Carbon Bisulphide.
George W. Speaight, New York.

Chemicals.
Massachusetts Talc Co., Boston.
Oxford Tripoli Co., New York.
George W. Speaight, New York.
S. F. Wetherill Co., Philadelphia, Pa.

Colors.
Joseph Cantor, New York.
William H. Scheel, New York.
Type & King, London, England.
S. F. Wetherill Co., Philadelphia, Pa.

Crude Rubber.
George A. Alden & Co., Boston.
A. W. Bruun & Co., New York.
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